CONTRIBUTING ZONE PLAN

for

THE RANCH AT CALITERRA

ENHANCED MEASURES

Prepared For:

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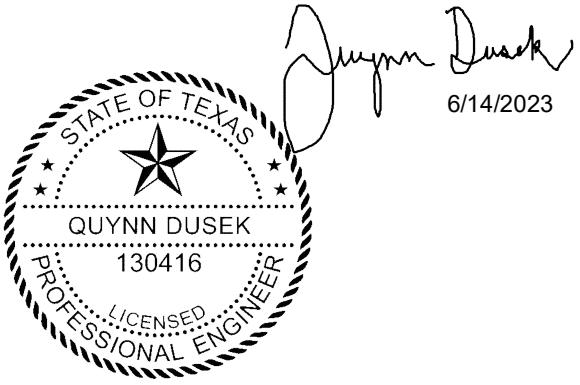

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ID# F3791

Carlson, Brigance & Doering, Inc.
Civil Engineering ⋄ Surveying

CBD No. 5079
June 2023

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Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with 30 TAC 213.

Administrative Review

1. Edwards Aquifer applications must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

   To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: http://www.tceq.texas.gov/field/eapp.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

   An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.

6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a "Mid-Review Modification". Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available:

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is denied/withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the affected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ's Austin Regional Office at 512-339-2929. If your project is in Comal, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ's San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

1. Regulated Entity Name: **The Ranch at Caliterra**						**2. Regulated Entity No.:**			
3. Customer Name: CF CSLK Carter, LLC						**4. Customer No.:**			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**		200.025	
9. Application Fee:	$8,000.00		**10. Permanent BMP(s):**			Vegetated Filter Strips & Batch Detention Pond			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Hays		**14. Watershed:**			Onion Creek			

Application Distribution

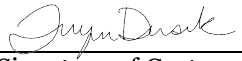
Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the "Texas Groundwater Conservation Districts within the EAPP Boundaries" map found at:

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

For more detailed boundaries, please contact the conservation district directly.

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	1	___	___
Region (1 req.)	1	___	___
County(ies)	1	___	___
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer _1_Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda _1_Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.
Quynn Dusek, Carlson, Brigance, & Doering, Inc.
Print Name of Customer/Authorized Agent
 6/14/2023
Signature of Customer/Authorized Agent Date

FOR TCEQ INTERNAL USE ONLY				
Date(s)Reviewed:		Date Administratively Complete:		
Received From:		Correct Number of Copies:		
Received By:		Distribution Date:		
EAPP File Number:		Complex:		
Admin. Review(s) (No.):		No. AR Rounds:		
Delinquent Fees (Y/N):		Review Time Spent:		
Lat./Long. Verified:		SOS Customer Verification:		
Agent Authorization Complete/Notarized (Y/N):		Fee Check:	Payable to TCEQ (Y/N):	
Core Data Form Complete (Y/N):			Signed (Y/N):	
Core Data Form Incomplete Nos.:			Less than 90 days old (Y/N):	

II. Geologic Assessment

Geologic Assessment for the Approximately 200 acre

The Ranch at Caliterra, Dripping Springs, Texas

AUGUST 202

PREPARED FOR

CF CSLK CARTER LL

PREPARED BY

SWCA Environmental Consultants

Texas Board of Professional Geoscientists, Firm Registration No. 50159

GEOLOGIC ASSESSMENT FOR THE APPROXIMATELY 200-ACRE THE RANCH AT CALITERRA, DRIPPING SPRINGS, TEXAS

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SWCA Project No. 73210

Augu t 2022

EXECUTIVE SUMMARY

On behalf of CF CSLK CARTER LLC, SWCA Environmental Consultants (SWCA) conducted a Geologic Assessment for the approximate 200 acre tract known as the Ranch at Caliterra located south of Onion Creek along Mount Gainor Road in the city of Dripping Springs, Hays County, Texas (Project Area). The purpose of the Geologic Assessment is to determine, to the extent feasible, the presence or lack of sensitive features to the Edwards Aquifer recharge zone.

Texas Administrative Code Title 30 Chapter 213 defines a sensitive feature as "a permeable geologic or manmade feature located on the recharge zone or transition zone where: a potential for hydrological interconnectedness between the surface and the Edwards Aquifer exists; and rapid infiltration to the subsurface may occur."

SWCA Environmental Consultants performed the Geologic Assessment in accordance with the Texas Commission on Environmental Quality's Instructions *to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones* (Rev. 10-01-04).

The project area overlies the Upper Glen Rose Limestone and is mapped entirely within Edwards Aquifer Contributing Zone. The Contributing Zone is the area or watershed where runoff from precipitation flows downgradient to the Recharge Zone of the Edwards Aquifer.

SWCA conducted the pedestrian survey on October 14, 2014, and June 9, 2022, where SWCA identified eight geologic features and three manmade features in bedrock. The eight geologic features consist of one cave, one solution cavity, and six non-karst closed depressions. The three manmade features in bedrock are wells associated with the rural residences on site.

The cave (F-12b) and solution cavity (F-2) are features where rapid infiltration to the subsurface may occur. However, due to their positioning in the Upper Glen Rose Limestone/Contributing Zone and their lack of a hydrological interconnectedness with the Edwards Aquifer, they do not meet the definition of a sensitive feature.

This Geologic Assessment revealed no sensitive features within the project area.

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1 INTRODUCTION

This narrative geologic assessment accompanies Texas Commission on Environmental Quality (TCEQ) Geologic Assessment Form TCEQ-0585 completed for the Ranch at Caliterra (project). The project area consists of approximately 2 acres located south of Onion Creek along Mount Gainor Road in the city of Dripping Springs, Hays County, Texas (Figure 1).

2 METHODOLOGY

Scientists from SWCA Environmental Consultants (SWCA) studied records pertaining to all reputed caves in the project area and gathered information related to documented caves in the project vicinity prior to conducting fieldwork. Relevant information sources included the following:

- Internal SWCA data
- Unpublished data related to SWCA et al. (2008)
- Environmental Systems Research Institute (ESRI) ArcGIS Online Map Services (2022)
- U.S. Geological Survey (USGS) Dripping Springs, Texas, 7.5-minute quadrangles (USGS 2019)
- Geologic maps (Barnes et al. 1981)

SWCA staff, including a Texas-licensed Professional Geoscientist (PG), conducted field surveys, hand excavations, and cave mapping. The pedestrian karst survey was conducted on October 14, 2014, and June 9, 2022.

The pedestrian survey was completed by walking parallel transects spaced approximately 30 to 50 feet apart, as directed by the TCEQ (2004) in the *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones* (Rev. 10-01-04). Closer spacing was used where vegetation inhibited clear observation. SWCA scientists carefully examined all potential geologic features, including depressions, holes, and animal burrows, for subsurface extent evidence. SWCA used several techniques for this effort, including probing with a digging implement to determine the thickness and consistency of fill material and feeling for air flow that could indicate the presence of a sub-surface void space. Other techniques included recording notable features and site characteristics, such as vegetation types or semi-circular burrow mounds produced by small mammal activity.

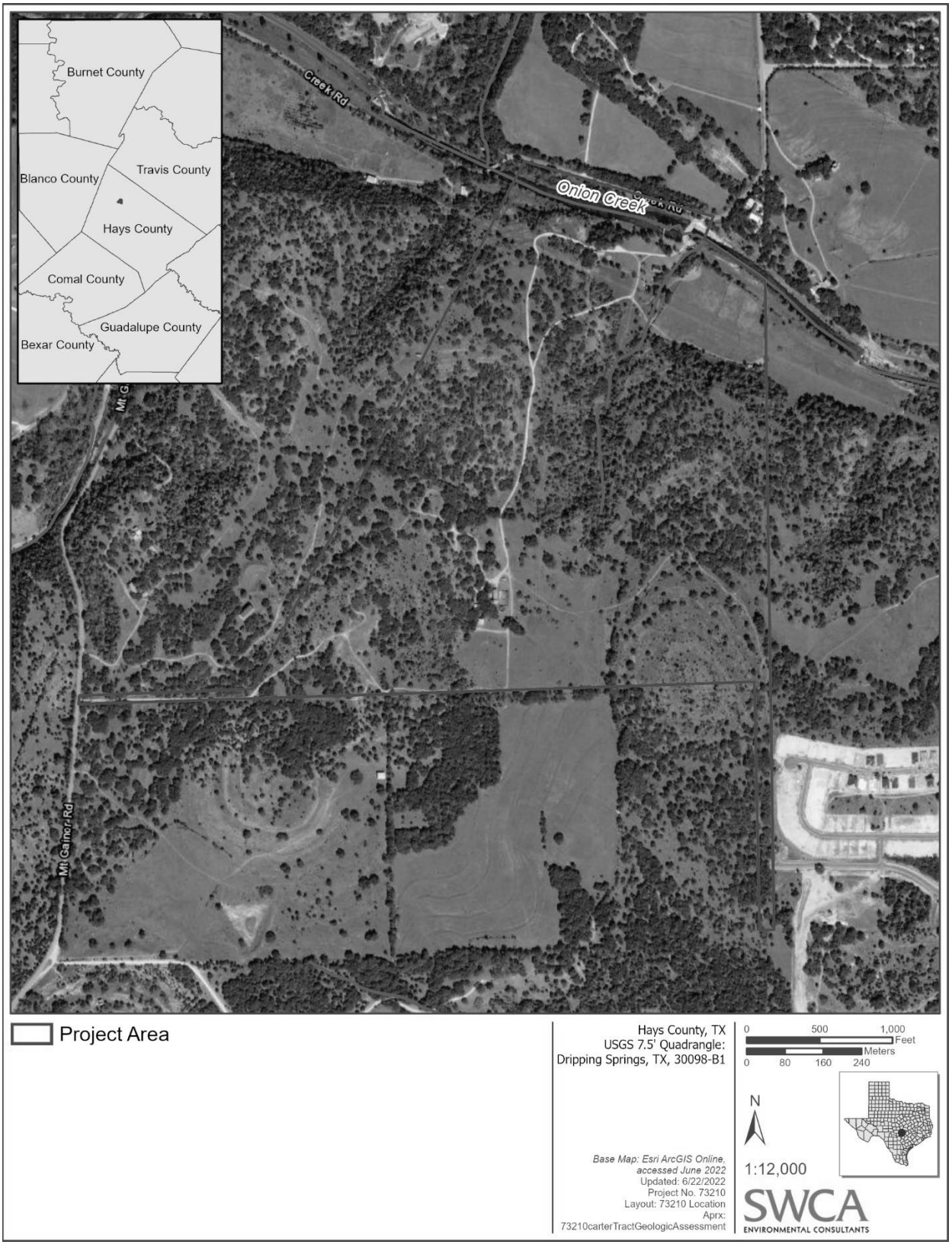

Figure 1. Project area location map.

3 RESULTS

3.1 Project Area Overview

The project area occurs within the Edwards Aquifer Contributing Zone (EACZ), which is west of, and is the surface water catchment area upgrade of the Edwards Aquifer Recharge Zone (EARZ) of the San Antonio segment of the Edwards Aquifer (TCEQ 2022). Topography within and surrounding the project area slopes from the north toward Onion Creek which is adjacent to the northern boundary of the project area. The elevation of the project area ranges from approximately 1,068 feet above mean sea level at the northern side of project area to 1,244 feet above mean sea level near the project area's southern extent.

The project area consists of mostly undeveloped land with two rural residences, their associated structures, and unimproved roadways that service the residences. Aside from two cleared areas for agricultural plantings, it appears that little vegetative manipulation has occurred in recent years. Onion Creek crosses the northern portion of the project area , flowing from west to east.

3.2 Soils

The Natural Resources Conservation Service (2022) identified eight soil units within the project area (Figure 2). Table 1 provides additional details for these soil units. Figure 2 depicts the locations of these soil units.

Table 1. Soil Units within the Project Area

Soil Unit	Symbol	Hydrologic Soil Group*	Drainage Class	Depth to Water Table (inches)
Comfort-Rock outcrop complex, 1 to 8 percent slopes	CrD	D	Well Drained	40+
Bolar clay loam, 1 to 3 percent slopes	BrB	C	Well Drained	80
Brackett-Rock outcrop-Comfort complex, 1 to 8 percent slopes	BtD	D	Well Drained	60
Tarpley clay, 1 to 3 percent slopes	TaB	D	Well Drained	60
Gruene clay, 1 to 5 percent slopes	GrC	D	Well Drained	60
Anhalt clay, 1 to 3 percent slopes	AnB	D	Well Drained	60
Real-Comfort-Doss complex, 1 to 8 percent slopes	RcD	D	Well Drained	40
Doss silty clay, moist, 1 to 5 percent slopes	DoC	D	Well Drained	80

Source: Natural Resources Conservation Service (2022).

* Group B – Soils had a slow infiltration rate when thoroughly wetted.
Group D – Soils had very slow infiltration rates when thoroughly wetted and exhibit the highest potential for runoff.

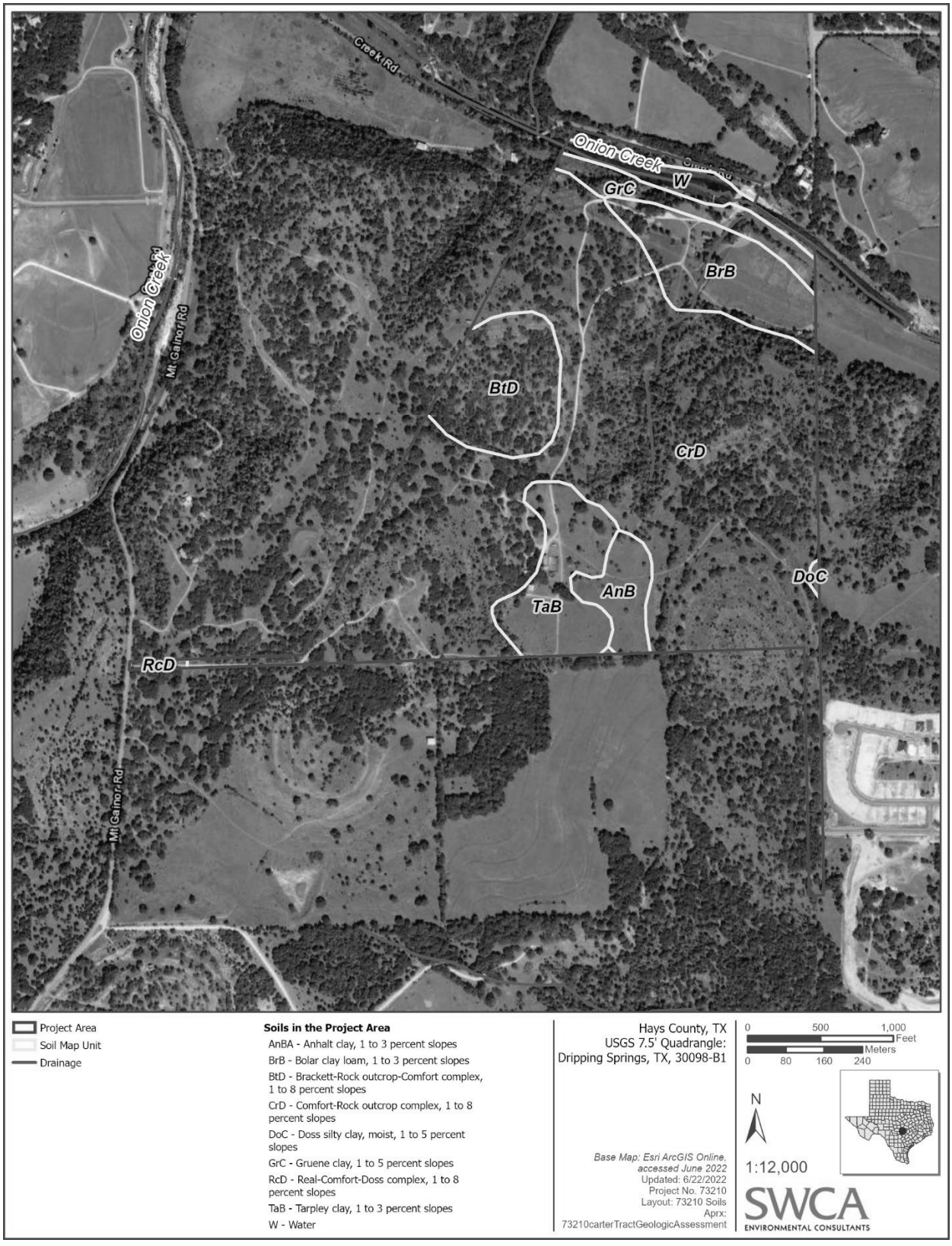

Figure 2. Project area soils map.

3.3 Geology

The project area occurs along the Edwards Plateau within the Edwards Aquifer Contributing Zone (TCEQ 2022). The Edwards Plateau is bounded by the Balcones Fault Zone (BFZ) to the south and east where structural down-warping occurred with the Gulf of Mexico's ancestral formation during the middle Tertiary. The earth's crust was stretched in response, and the BFZ formed along a zone of weakness, which currently marks the boundary between the Edwards Plateau and the Gulf Coastal Plain in central Texas. The BFZ is characterized by a series of northeast-trending, predominantly normal, nearly vertical, en echelon faults.

As depicted on Figure 3, there are no mapped faults within the project area (Barnes et al. 1981). The regional trend of the mapped faults within the area is approximately 45 degrees; therefore, any features within 15 degrees (a range from 30–60 degrees) will be awarded an additional 10 points on the geologic assessment table presented in Appendix A, Attachment A.

The Geologic Atlas of Texas, Llano Sheet (Barnes 1981) indicates that the project area is underlain by two geologic formations: Alluvium (Qal) and Upper Glen Rose Limestone (Kgru) (see Appendix A, Attachment D). SWCA finds the Barnes et al. (1981) interpretation of the geology to be generally accurate. The stratigraphic column is included in Appendix A, Attachment B. The following descriptions of these geological formations are from the Bureau of Economic Geology (Barnes et al. 1981):

- **Qal:** Gravel, sand, silt, and clay along streams and rivers; inundated regularly. Gravel is mostly limestone and chert. Along minor drainages, includes undivided low terrace deposits. Includes local bedrock outcrops that are undivided.

- **Kgru:** Limestone, dolomite, and marl in alternating resistant and recessive beds forming stairstep topography.

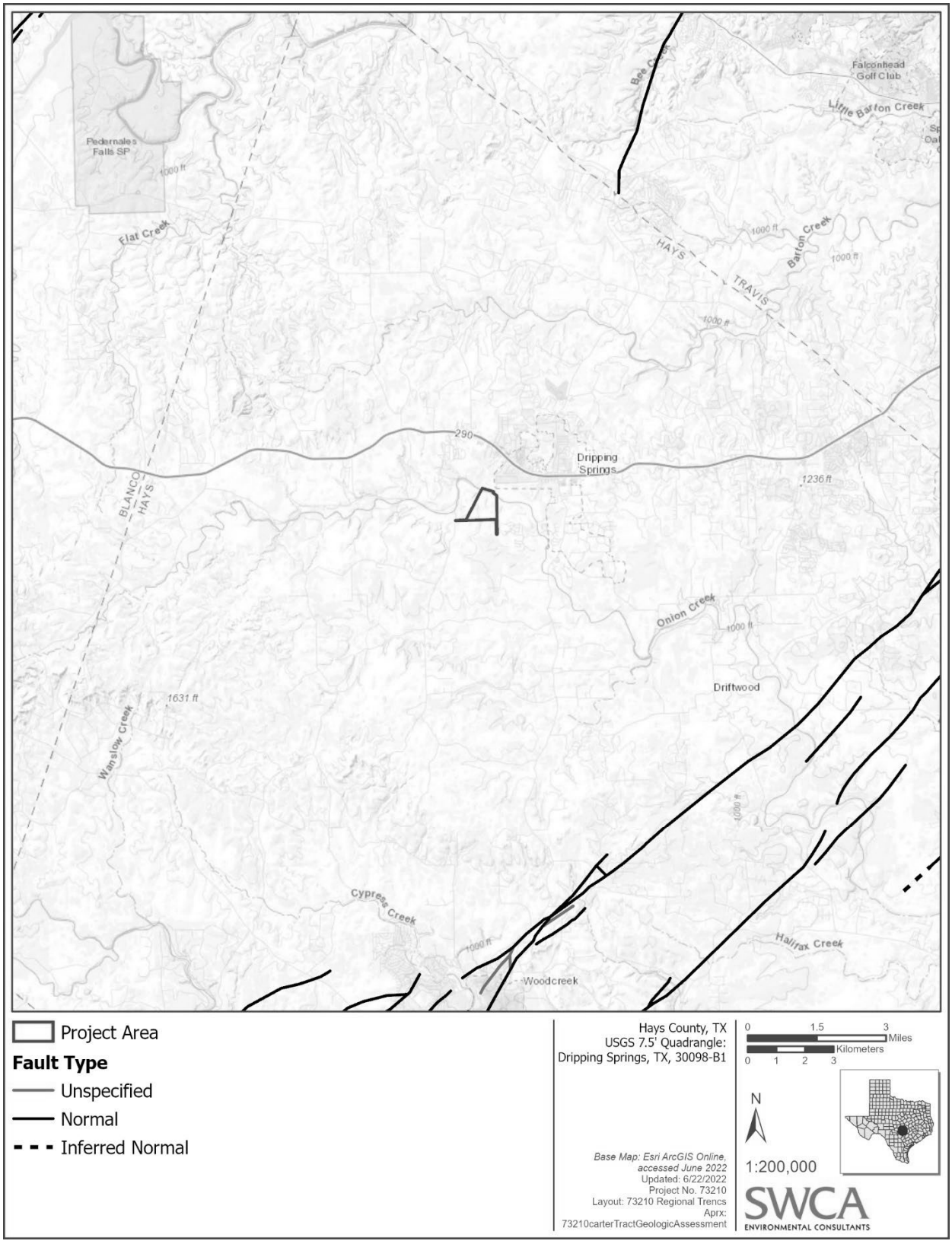

Figure 3. Project area regional trend map.

3.4 Hydrogeologic Assessment

Due to the presence of a cave and a solution cavity within the project area, the overall potential for fluid migration to the subsurface within the project area appears higher than background infiltration rates. The depth to water approximately 400 feet to the west of the project area has been measured at 180 feet below ground surface in nearby monitoring wells (State ID Nos. 34982) (Texas Water Development Board [TWDB] 2022) TWDB records show one well within the project area (State ID No. 57-56-477); however, there is no information related to depth to water. The northern portion of the project area is likely to have a shallower depth to water, as Onion Creek runs along the northern boundary of the project area. No groundwater was observed in the cave located within the project area. The gentle contours within the project area suggest runoff from rainfall reaching the undisturbed portions of the project area will continue downslope in the form of sheet flow until collected in Onion Creek.

Surface water entering the subsurface within the project area would recharge groundwater within the Upper Glen Rose Limestone, which comprises the Upper Trinity Aquifer. The Upper Trinity Aquifer is hydrostratigraphically lower than the Edwards Aquifer. The Edwards Aquifer does not exist at the project site because the Edwards Group has been eroded, exposing the underlying Upper Glen Rose Limestone.

Therefore, the geologic features identified at the project site appear to have the ability to transmit fluids into the subsurface, but the features do not have an interconnectedness with the Edwards Aquifer. Therefore, the features are not sensitive with respect to the Edwards Aquifer.

3.5 Feature Descriptions

SWCA scientists observed eight geologic features and two man-made features in bedrock within the project area. Seven of the eight features lie along a hillslope at the same elevation and strata of the Upper Glen Rose Limestone. Geologic features identified within the project area are described below and depicted in Appendix A, Attachment D; a photographic log for these features is provided in Appendix B.

3.5.1 Geo c Features

Feature F-2

Feature F-2 is a solution cavity within an outcrop of the upper member of the Glen Rose Limestone. The feature was originally identified by SWCA in 2014 and was reevaluated in 2022 by SWCA. The feature opening measures approximately 1.5 feet by 3 feet with a depth of approximately 3 feet. Positioned on hilltop, the feature has a small catchment area (<1.6 acres). Infill material within the feature consists of loose soil and rock. The potential for rapid infiltration into this feature is considered high (20 points). Because the feature does not have a potential for hydraulic interconnectedness with the Edwards Aquifer, the feature is not sensitive.

F-9, F-12a–F-12f

Features F-9, F-12a, F-12b, F-12c, F-12d, F-12e, and F-12f are geologic features that occur within a similar elevation and along an apparent fracture trend mapped within the upper member of the Glen Rose Limestone. The feature types include non-karst closed depressions and one cave (F-12b). The northern most feature is F-12a is located approximately 242 feet north of the southernmost feature (F-9) along what appears to be the same bedding plane/strata. In 2014, SWCA excavated some of the features to better understand their infiltration rates and potential for subsurface development. At feature F-12b, SWCA removed loose limestone cobbles and boulders intermixed with organic rich soils eventually

unearthing a narrow solution feature that qualifies as a cave. This cave (F-12b) is approximately 1 to 1.5 feet in diameter and extends into the ground approximately 6 feet. The floor of F-12b appears to be plugged with a clay lining; SWCA was unable to excavate further into the feature due to restricted access. Due to the narrow size/limited horizontal development of F-12b, a cave map was not prepared.

The strata in which these features are positioned is located along the upper limits of a hillside approximately 100 feet below the ridgeline at the northern limit and nearly 200 feet at the southern end. Because these features do not have a potential for hydraulic interconnectedness with the Edwards Aquifer, the features are not considered sensitive.

3.5.2 Manm de Features in Bedrock

Three wells were identified during the geologic assessment. One well (well #5756477) was identified on TWDB well map viewer and was not observed in the field. The other two wells are associated with the onsite rural residences and appear to be functional. These wells should be brought to the attention of the project engineer; however, they do not warrant a protection buffer.

4 CONCLUSION

SWCA identified eight geologic features and three wells (manmade features in bedrock) during the geologic assessment of the Ranch at Caliterra. Seven of those features (F-9 and F-12a–f) appear to exist in the same bedding plane and include a small cave (F-12b). F-2 occurs by itself and is located along a hilltop.

The cave (F-12b) and solution cavity (F-2) are features where rapid infiltration to the subsurface may occur. However, due to their positioning in the Upper Glen Rose Limestone/Contributing Zone and their lack of a hydrological interconnectedness with the Edwards Aquifer, they do not meet the definition of a sensitive feature.

This Geologic Assessment revealed no sensitive features within the project area.

5 LITERATURE CITED

Barnes, V.E., Shell Oil Co., Boyer, R.E., Clabaugh, S.E., and Baker, E.T. 1981. *The Geologic Atlas of Texas, Llano Sheet*. University of Texas at Austin, Bureau of Economic Geology. Geologic Atlas of Texas 20, 1:250,000.

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———. 2022. Edwards Aquifer Viewer, Version 4.1. Available at: https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=2e5afa3ba8144c30a49d3dc1ab49edcd. Accessed June 2022.

Texas Water Development Board (TWDB). 2022 Groundwater data viewer. Available at: https://www2.twdb.texas.gov/apps/WaterDataInteractive/GroundwaterDataViewer/?map=sdr Accessed June 2022

U.S. Geological Survey (USGS). 2019. Topographic map, 1:24000 series, for the Dripping Springs, Texas, quadrangle.

APPENDIX A

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY FORMS

Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Luke Rome, P.G. Telephone: 737.236.4480

Date: August 12, 2022 Fax: 512-47

Representing: SWCA Environmental Consultants; TBPG Firm Registration No. 50159 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Ranch at Caliterra

Project Informati

1. Date(s) Geologic Assessment was performed: 06/06/2022 and 11/14/2014
2. Type of Project:
   - ☒ WPAP
   - ☒ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☐ Recharge Zone
   - ☐ Transition Zon
   - ☐ Contributing Zone within the Transition Zon

   Project Area overlies the Contributing Zone

4. ☒ **Attachment A - Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. ☒ Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
See Section 3.2		

** Soil Group Definitions (Abbreviated)*

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geolog** . A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

   Applicant's Site Plan Scale: 1" = 300'
   Site Geologic Map Scale: 1" = 300'
   Site Soils Map Scale (if more than 1 soil type): 1" = 1,000'

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☐ Other method(s). Please describe method of data collection: _____

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigatio

13. ☐ The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☒ There are 2 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply

    ☐ The wells are not in use and have been properly abandoned.

    ☒ The wells are not in use and will be properly abandoned.

    ☐ The wells are in use and comply with 16 TAC Chapter 76.

    ☐ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

15. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

Attachment A

Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Ranch at Caliterra

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		1
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DIM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<	≥40	<1.6	≥1.6	
F-2	30.178044	-98.111584	SC	20	Kgru	1.5	3	1.5					C, O, F	20	4					Hilltop
F-9	30.178906	-98.117766	CD	5	Kgru	3	3	0.5				-	C, O, F	5	10	X		X		Hillside
F-12a	30.179549	-98.117759	CD	5	Kgru	3	3	0.5					O,F,V	5	10	X		X		Hillside
F-12b	30.179543	-98.117769	C	3	Kgru	1	1.5	6					N, F, O	25	55		X	X		Hillside
F-12c	30.179464	-98.117764	CD	5	Kgru	2	2	0.5					O,F,V	5	10	X		X		Hillside
F-12d	30.179367	-98.117736	CD	5	Kgru	1	1	1				-	O,F,V	5	10	X		X		Hillside
F-12e	30.179195	-98.11778	CD	5	Kgru	2	2	0.5					O,F,V	5	10	X		X		Hillside
F-12f	30.179105	-98.117768	CD	5	Kgru	2	2	0.5					O,F,V	5	10	X		X		Hillside
Well	30.180116	-98.115558	MB	30	Kgru	x	x	x					N	5	35	X		X		Hillside
Well	30.185379	-98.112153	MB	30	Kgru	x	x	x					N	5	35	X		X		Hillside
Well	30.181967	-98.11333	MB	30	Kgru	x	x	x					N	5	35	X		X		Hillside

* DATUM: Geographic Latitude Longitude Decimal Degrees NAD83

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	oarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.
My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date August 12, 202

Sheet 1 of 1

TCEQ-0585-Table (Rev. 10-01-04)

August 3, 2022

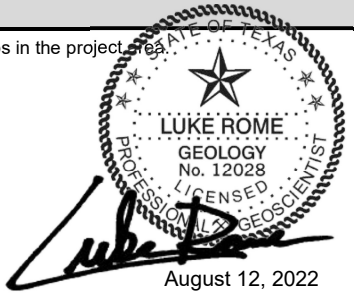
Attachment B

Stratigraphic Column

Stratigraphic Column

Upper Cretaceous	Upper Confining Units	Navarro and Taylor Groups, undivided; 600 feet thick
		Austin Group; 325–420 f t thick
		Eagle Ford Group; 25–65 fe t thick
		Buda Limestone; 40–50 feet thick
		Del Rio Clay; 40–70 feet thick
Lower Cretaceous	Edwards Aquifer	Georgetown Formation; 30–80 feet thick
		Edwards Limestone; Up to 200 feet thick
		Comanche Peak Formation; 80 feet thick
	Lower Confining Units	Walnut Formation; Up to 120 feet thick
		Upper member of Glen Rose Limestone; 500 feet thick

Note: The shaded area represents the lithology that outcrops in the project area.



August 12, 2022

Attachment C

Narrative Description of Site Geology

Refer to Section 3.3 of this report for the geologic narrative description.

Attachment D

Site Geologic Maps

Figure D1: Site geologic map.

STATE OF TEXAS
LUKE ROME
GEOLOGY
No. 12028
LICENSED
PROFESSIONAL GEOSCIENTIST

August 12, 2022

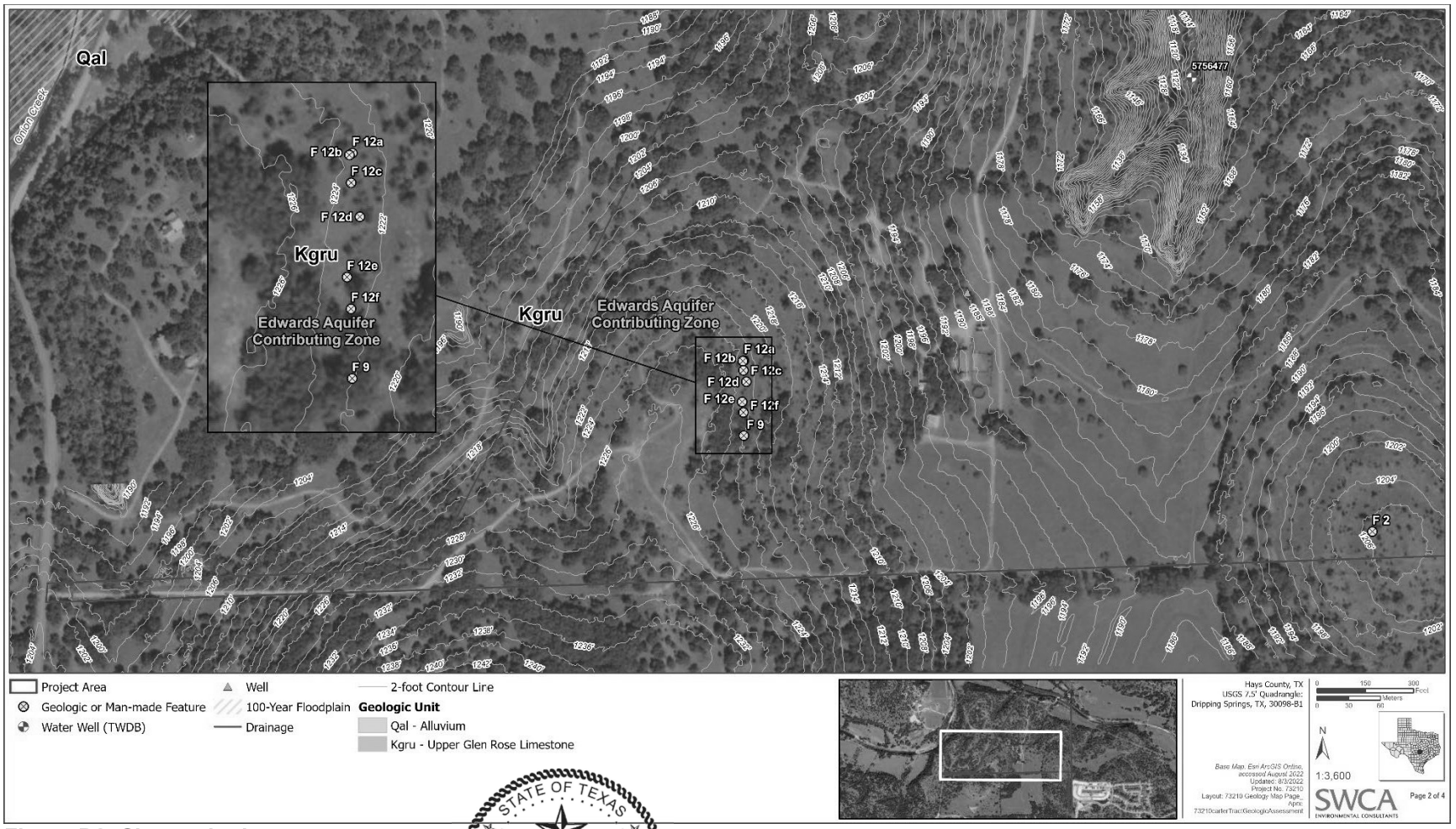


Figure D2: Site geologic map.

STATE OF TEXAS
LUKE ROME
GEOLOGY
No. 12028
LICENSED
PROFESSIONAL GEOSCIENTIST

August 12, 2022

Figure D3: Site geologic map.

STATE OF TEXAS
LUKE ROME
GEOLOGY
No. 12028
LICENSED
PROFESSIONAL GEOSCIENTIST

August 12, 2022

STATE OF TEXAS
LUKE ROME
GEOLOGY
No. 12028
LICENSED
PROFESSIONAL GEOSCIENTIST

August 12, 2022

APPENDIX B

PHOTOGRAPHIC LOG

Photo 1. View of Feature F-2.

Photo 2. View of Feature F-9.

Photo 3. View of Feature F-12a.

Photo 4. View of Feature F-12b.

Photo 5. View of the interior of F-1 b.

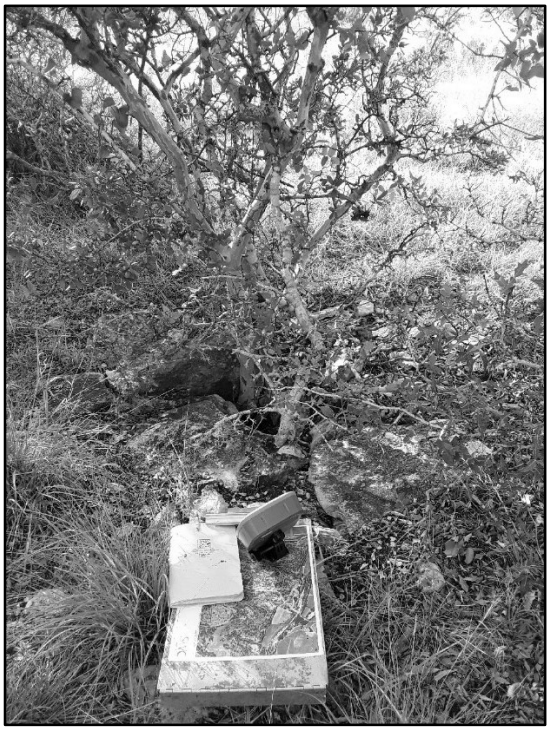


Photo 6. View of feature F-12c

Photo 7. View of the interior of F-12d

Photo 8. View of the interior of F-12e.

Photo 9. View of the interior of F-12f.

III. **Contributing Zone Plan Application (TCEQ-10257)**

Contributing Zone Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Contributing Zone to the Edwards Aquifer and Relating to 30 TAC §213.24(1), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Contributing Zone Plan Application** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Print Name of Customer/Agent: Quynn Dusek

Date: 6/13/23

Signature of Customer/Agent:

Regulated Entity Name: CF CSLK Carter, LLC.

Project Information

1. County: Hays
2. Stream Basin: Onion Creek
3. Groundwater Conservation District (if applicable): Hays Trinity
4. Customer (Applicant):

   Contact Person: Gregory L. Rich
   Entity: CF CSLK Carter, LLC
   Mailing Address: 1222 Merit Drive, Suite 1020
   City, State: Dallas, TX Zip: 75251
   Telephone: 972-960-2777 Fax: _____
   Email Address: grich@siepiela.com

5. Agent/Representative (If any):

Contact Person: Quynn Dusek
Entity: Carlson, Brigance, & Doering, Inc
Mailing Address: 5501 West William Cannon Drive
City, State: Austin, TX Zip: 78749
Telephone: 512-280-5160 Fax: 512-583-0903
Email Address: quynn@cbdeng.com

6. Project Location:

☒ The project site is located inside the city limits of Dripping Springs.
☐ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
☐ The project site is not located within any city's limits or ETJ.

7. ☒ The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

Access road connects to Mt Gainor Road FM 220 at 30°10'39.4"N 98°07'28.8"W

8. ☒ **Attachment A - Road Map**. A road map showing directions to and the location of the project site is attached. The map clearly shows the boundary of the project site.

9. ☒ **Attachment B - USGS Quadrangle Map**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') is attached. The map(s) clearly show:

☒ Project site boundaries.
☒ USGS Quadrangle Name(s).

10. ☒ **Attachment C - Project Narrative**. A detailed narrative description of the proposed project is attached. The project description is consistent throughout the application and contains, at a minimum, the following details:

☒ Area of the site
☒ Offsite areas
☒ Impervious cover
☒ Permanent BMP(s)
☒ Proposed site use
☒ Site history
☒ Previous development
☒ Area(s) to be demolished

11. Existing project site conditions are noted below:

☐ Existing commercial site
☐ Existing industrial site
☒ Existing residential site

☒ Existing paved and/or unpaved roads
☐ Undeveloped (Cleared)
☐ Undeveloped (Undisturbed/Not cleared)
☐ Other: _____

12. The type of project is:

☒ Residential: # of Lots: 234
☐ Residential: # of Living Unit Equivalents: _____
☐ Commercial
☐ Industrial
☐ Other: _____

13. Total project area (size of site): 200.025 Acres

Total disturbed area: 168.97 Acres

14. Estimated projected population: 819

15. The amount and type of impervious cover expected after construction is complete is shown below:

Table 1 - Impervious Cover

Impervious Cover of Proposed Project	***Sq. Ft.***	***Sq. Ft./Acre***	***Acres***
Structures/Rooftops	952,500	÷ 43,560 =	21.867
Parking		÷ 43,560 =	
Other paved surfaces	557,804	÷ 43,560 =	12.805
Total Impervious Cover	1,510,304	÷ 43,560 =	34.672

Total Impervious Cover 34.672 **÷ Total Acreage** 200.025 **X 100 =** 17.33**% Impervious Cover**

16. ☒ **Attachment D - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.

17. ☒ Only inert materials as defined by 30 TAC 330.2 will be used as fill material.

For Road Projects Only

Complete questions 18 - 23 if this application is exclusively for a road project.

☒ N/A

18. Type of project:

- ☐ TXDOT road project.
- ☐ County road or roads built to county specifications.
- ☐ City thoroughfare or roads to be dedicated to a municipality.
- ☐ Street or road providing access to private driveways.

19. Type of pavement or road surface to be used:

- ☐ Concrete
- ☐ Asphaltic concrete pavement
- ☐ Other: _____

20. Right of Way (R.O.W.):

Length of R.O.W.: _____ feet.
Width of R.O.W.: _____ feet.
L x W = _____Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.

21. Pavement Area:

Length of pavement area: _____ feet.
Width of pavement area: _____ feet.
L x W = _____Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.
Pavement area _____ acres ÷ R.O.W. area _____ acres x 100 = _____% impervious cover.

22. ☐ A rest stop will be included in this project.

☐ A rest stop will not be included in this project.

23. ☐ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

Stormwater to be generated by the Proposed Project

24. ☒ **Attachment E - Volume and Character of Stormwater**. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Wastewater to be generated by the Proposed Project

25. ☒ Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

☐ N/A

26. Wastewater will be disposed of by:

☐ On-Site Sewage Facility (OSSF/Septic Tank):

☐ **Attachment F - Suitability Letter from Authorized Agent**. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.

☐ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

☒ Sewage Collection System (Sewer Lines):

The sewage collection system will convey the wastewater to the Dripping Springs (name) Treatment Plant. The treatment facility is:

☒ Existing.
☐ Proposed.

☐ N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

Complete questions 27 - 33 if this project includes the installation of AST(s) with volume(s) greater than or equal to 500 gallons.

☒N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

AST Number	*Size (Gallons)*	*Substance to be Stored*	*Tank Material*
1			
2			
3			
4			
5			

Total x 1.5 = _____ Gallons

28. ☐ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than

one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

☐ **Attachment G - Alternative Secondary Containment Methods**. Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are attached.

29. Inside dimensions and capacity of containment structure(s):

Table 3 - Secondary Containment

Length (L)(Ft.)	*Width(W)(Ft.)*	*Height (H)(Ft.)*	*L x W x H = (Ft3)*	*Gallons*

Total: _____ Gallons

30. Piping:

☐ All piping, hoses, and dispensers will be located inside the containment structure.
☐ Some of the piping to dispensers or equipment will extend outside the containment structure.
☐ The piping will be aboveground
☐ The piping will be underground

31. ☐ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of: _____.

32. ☐ **Attachment H - AST Containment Structure Drawings**. A scaled drawing of the containment structure is attached that shows the following:

☐ Interior dimensions (length, width, depth and wall and floor thickness).
☐ Internal drainage to a point convenient for the collection of any spillage.
☐ Tanks clearly labeled
☐ Piping clearly labeled
☐ Dispenser clearly labeled

33. ☐ Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

☐ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.

☐ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

Site Plan Requirements

Items 34 - 46 must be included on the Site Plan.

34. ☒ The Site Plan must have a minimum scale of 1" = 400'.

    Site Plan Scale: 1" = 100'.

35. 100-year floodplain boundaries:

    ☒ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

    ☐ No part of the project site is located within the 100-year floodplain.

    The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): _____.

36. ☒ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.

    ☐ The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot contour intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.

37. ☒ A drainage plan showing all paths of drainage from the site to surface streams.

38. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.

39. ☒ Areas of soil disturbance and areas which will not be disturbed.

40. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

41. ☒ Locations where soil stabilization practices are expected to occur.

42. ☒ Surface waters (including wetlands).

    ☐ N/A

43. ☒ Locations where stormwater discharges to surface water.

    ☐ There will be no discharges to surface water.

44. ☐ Temporary aboveground storage tank facilities.

    ☒ Temporary aboveground storage tank facilities will not be located on this site.

45. ☐ Permanent aboveground storage tank facilities.

☒ Permanent aboveground storage tank facilities will not be located on this site.

46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

Practices and measures that will be used during and after construction is completed.

47. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

☐ N/A

48. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

☐ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: _____.

☐ N/A

49. ☒ Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

☐ N/A

50. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

☒ The site will be used for low density single-family residential development and has 20% or less impervious cover.

☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.

☐ The site will not be used for low density single-family residential development.

51. The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

☐ **Attachment I - 20% or Less Impervious Cover Waiver**. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.

☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.

☒ The site will not be used for multi-family residential developments, schools, or small business sites.

52. ☐ **Attachment J - BMPs for Upgradient Stormwater**.

☐ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.

☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.

☒ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

53. ☒ **Attachment K - BMPs for On-site Stormwater**.

☒ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.

☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

54. ☒ **Attachment L - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams is attached.

☐ N/A

55. ☒ **Attachment M - Construction Plans**. Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are

attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.

☐ N/A

56. ☒ **Attachment N - Inspection, Maintenance, Repair and Retrofit Plan**. A site and BMP specific plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan fulfills all of the following:

☒ Prepared and certified by the engineer designing the permanent BMPs and measures
☐ Signed by the owner or responsible party
☐ Outlines specific procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofit.
☐ Contains a discussion of record keeping procedures

☐ N/A

57. ☐ **Attachment O - Pilot-Scale Field Testing Plan**. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.

☒ N/A

58. ☒ **Attachment P - Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that result in water quality degradation.

☐ N/A

Responsibility for Maintenance of Permanent BMPs and Measures after Construction is Complete.

59. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

60. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development,

or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

Administrative Information

61. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions.

62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

63. ☒ The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

☒ The Temporary Stormwater Section (TCEQ-0602) is included with the application.

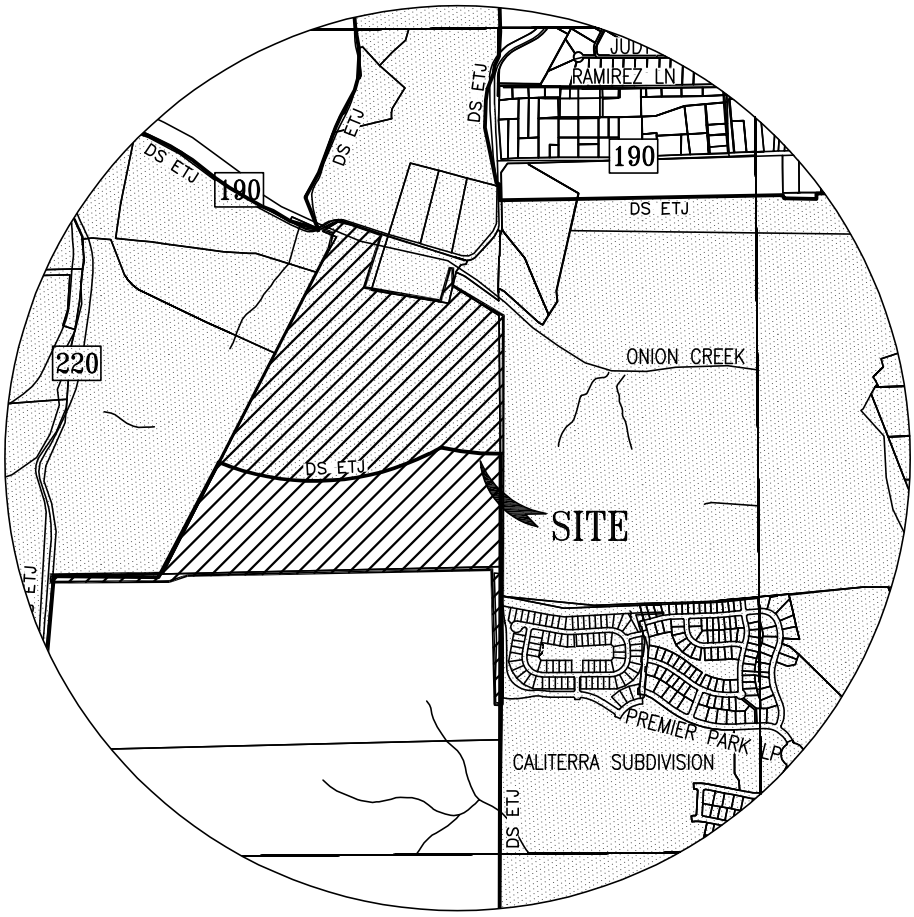
CZP APPLICATION

ATTACHMENT "A"

Road Map

ATTACHMENT A

THE RANCH AT CALITERRA



LOCATION MAP

SCALE: 1" = 2,000'

CZP APPLICATION

ATTACHMENT "B"

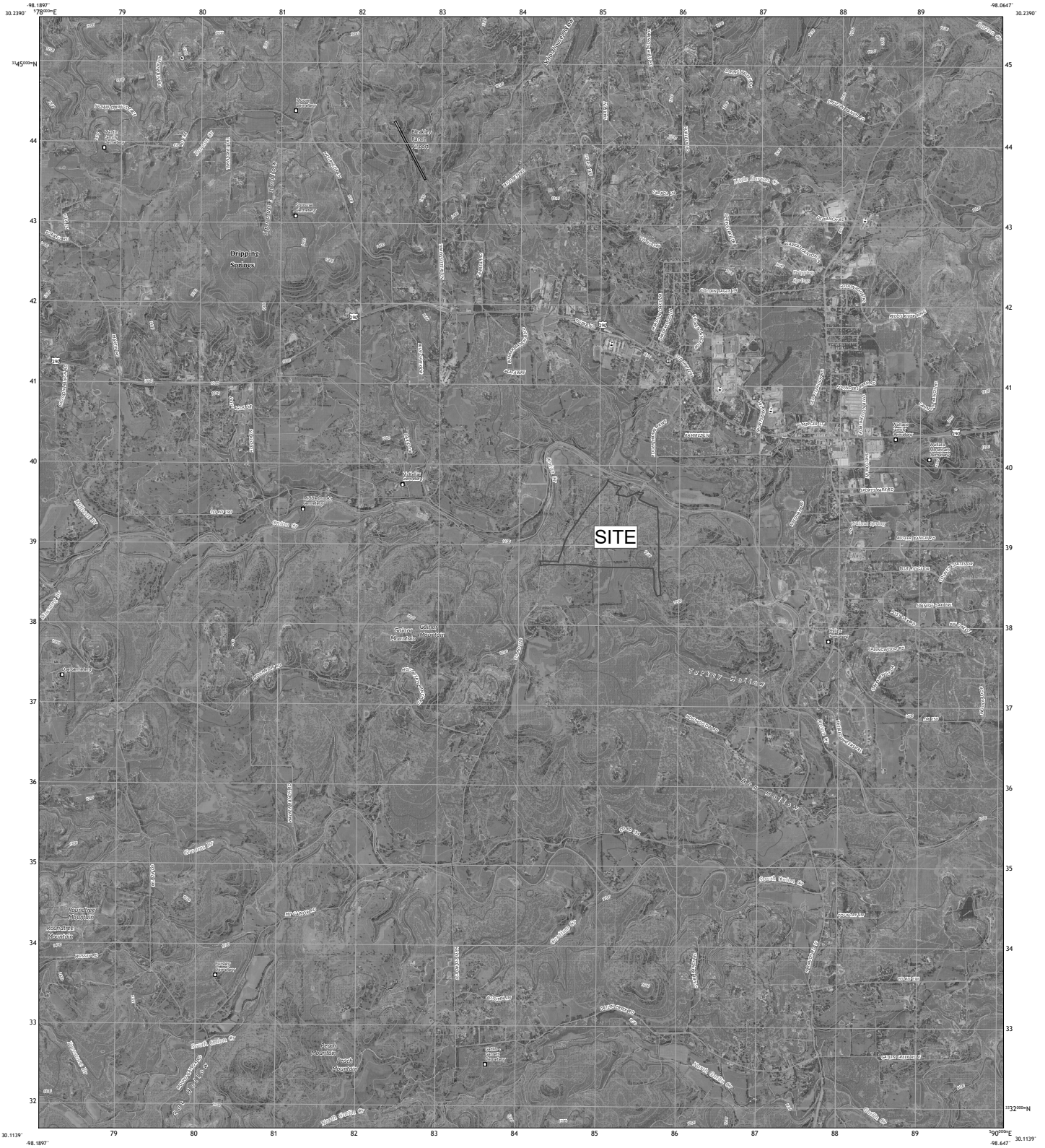
USGS Quadrangle Map

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
OnDemand Topo

7.5-MINUTE TOPO QUADRANGLE
Custom Extent
7.5-MINUTE TOPO

ATTACHMENT "B"



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 14R
Data is provided by The National Map (TNM), is the best available at the time of map generation, and includes data content from supporting themes of Elevation, Hydrography, Geographic Names, Boundaries, Transportation, Structures, Land Cover, and Orthoimagery. Refer to associated Federal Geographic Data Committee (FGDC) Metadata for additional source data information.

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands. Temporal changes may have occurred since these data were collected and some data may no longer represent actual surface conditions.

Learn About The National Map: https://nationalmap.gov

UTM GRID AND 2021 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
NU
Grid Zone Designation
14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 MILES 1
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium

TEXAS

QUADRANGLE LOCATION

ADJOINING QUADRANGLES

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

7.5-MINUTE TOPO, TX
2023

CZP APPLICATION

ATTACHMENT "C"
Project Narrative

1.0 GENERAL

The **Ranch at Caliterra** project is a 200.025-acre proposed development consisting of 234 single family lots, located to the Northwest of existing Section 3-9 of the Caliterra Subdivision. This site is located in City of Dripping Springs' ETJ and is in Hays County. The project is in the HCDD No.1 Municipal Utility District. The site is currently developed with a single-family residence and barn structures that are to be removed. Neighboring parcels are single family residences, cattle land, or buffer space to Onion Creek.

2.0 ORDINANCE STATUS

The project lies over the Edwards Aquifer Contributing Zone in Hays County and is subject to the TCEQ Contributing Zone regulations.

The project is proposed as a continuation of the Caliterra Subdivision and is subject to the Development Agreement between City of Dripping Springs and Development Solutions CAT, LLC, Owner of Caliterra Subdivision, recorded in Vol. 4978, Page 215, OPR of Hays County, Texas. The project is also subject to the Water Agreement between the developer and the Dripping Springs Water Supply Corporation.

3.0 ACCESS

Access to this project shall be from a continuation of existing Soaring Hill Drive within Section 3-9. The secondary access will be from a proposed intersection with Mount Gainor Road extending into the property. The local roadways in this subdivision comprise of 60' R.O.W. consisting of 23' of pavement, 1.5' ribbon curb, and bar ditches. The minor collector roadways comprises of 60' R.O.W., consisting of 29' of pavement, 1.5' ribbon curb, and bar ditches. The access drive from existing Caliterra 3-9 along HC Carter Way will be 15' face of curb to face of curb.

4.0 WATER QUALITY

This project is subject to the water quality provisions of the City of Dripping Springs TCSS manual and Hays County stormwater management standards. This project is subject to the water quality provisions of the Texas Commission on Environmental Quality (TCEQ) for the Edward's Aquifer Contributing Zone (CZP) with enhanced measures under RG-348A. The run-off from this project will be treated by natural and engineered vegetated filter strips as well as a water quality pond that meet the TSS removal rates. A CZP will be submitted to TCEQ. Erosion and sedimentation control BMPs will be installed to mitigate downstream affect from the development.

5.0 WATER AND WASTEWATER

The tract is within the City of Dripping Springs Water Supply Corporation water service area. The Ranch at Caliterra will utilize water services through existing water lines plugged at the boundary of the project which were provided in Phase 3 Section 11 subdivision construction.

Wastewater service is within the City of Dripping Springs wastewater system installed with the subdivision. A future design of a wastewater interceptor is proposed at the northernmost corner of the subdivision. The Ranch at Caliterra will utilize this line to service the subdivision. A portion of the lots will use a pressure system connect into the proposed gravity lines.

A treated effluent water line will be extended from Caliterra Phase 3 Section 9 into the subdivision to water the open spaces and parks.

6.0 SEDIMENTATION/EROSION CONTROL/TREE SURVEY

Sedimentation/erosion controls are required and will be in accordance with TCEQ Contributing Zone requirements and City of Dripping Springs guidelines. The project proposes to use silt fence, stabilized construction entrances and inlet protections as temporary measures. Our revegetation plan will comply with City of Dripping Springs and Hays County standards.

7.0 CRITICAL ENVIRONMENTAL FEATURES

There are no known Critical Environmental Features (CEF's) located on the tract or within 150 feet of the tract. The Geologic Assessment identifies 8 features and 3 wells onsite, however, none are considered sensitive. This project is within the Edwards Aquifer Contributing Zone and drains to the Onion Creek Watershed. A portion of this lot is impacted by the 100-year floodplain Zone AE as defined by FEMA FIRM Panel # 48209C0115F, revised dated September 2, 2005 for Hays County, Texas. No portion of any lots or roadways are within the floodplain or its buffer area.

8.0 DRAINAGE AND DETENTION

Stormwater runoff will flow overland to vegetative swales along the proposed streets. The drainage system will be designed to convey the 100-year storm even within the swale system. Some of the swales will be collected into the water quality pond that will drain offsite. Detention is not provided due to this project's proximity to Onion Creek. As shown in the overall Onion Creek drainage study, the flow from this development does not result in an increase in storm flow at the confluence of Onion Creek and its tributary adjacent to the subject property. Aggressive erosion control practices such as rip-rap, permanent rock berms, energy dissipaters, and slope stabilization techniques will be used to minimize erosion.

The impervious cover added to this development is 34.98 acres, or 17.49%. Treatment for approximately 18.96 acres impervious cover will be by water quality BMP's for TSS removal. The remaining will go untreated due to grading limitations. No existing impervious cover will drain to the site.

9.0 CERTIFICATION

I hereby certify that this application complies with the applicable codes and ordinances of the City of Austin Land Development Code, Title 30.

Quynn Dusek, P.E.	#130416	6/14/2023 Date

CZP APPLICATION

ATTACHMENT "D"

Factors Affecting Surface Water Quality:

Factors contributing to the contamination of surface and groundwater are generated from man-made pollutants such as pet waste, pesticides, fertilizers, illegal trash dumping, and automotive fluids.

CZP APPLICATION

ATTACHMENT "E"

Volume and Character of Stormwater Runoff:

This site has several different discharge points around the boundary. Cumulative proposed discharge leaving site is approximately 1,604 CFS during the 100-year storm event. Runoff from the development will sheet flow from the roadway and lots through engineered and natural vegetated filter strips that provide a removal rate of 85% by TCEQ standards. A portion of the runoff will be treated by a batch detention pond with a removal rate of 93%. A portion of the runoff sheet flows offsite while the majority is channelized into a tributary of Onion Creek. The curve number for the existing parcel is 79. Developed drainage areas retained the same curve number from existing conditions with impervious cover applied. The total impervious cover in the future developed state is 17.49%. Using Optional Enhanced Measures, no existing onsite impervious cover is applicable. A composite analysis was not performed; therefore, no runoff coefficient is applied for proposed conditions. The runoff leaving the site will be in compliance with the Texas Commission on Environmental Quality (TCEQ) Regulations. This flow is left undetained in order to help manage the peak discharge rates in Onion Creek. By releasing the flow quicker, the rates during the peak are able to maintain flow or decrease flow during the events.

CZP APPLICATION

ATTACHMENT "J"

BMP's for Upgradient Stormwater

The proposed site has 40.284 acres draining towards the site, none of which have impervious cover. No BMP's are proposed for any future treatment.

CZP APPLICATION

ATTACHMENT "K"

BMP's for On-site Stormwater

Permanent water quality controls will be provided by natural and engineered vegetated filter strips. Majority of the storm runoff from onsite and entering the site from offsite will travel overland or streets, through the vegetated filter strips to the roadside swales or storm sewer lines, through a water quality pond and discharge to the tributary or directly into Onion Creek. The remainder of the onsite impervious cover will go uncontrolled. The water quality controls were designed using TCEQ Technical Guidance Manual RG-348 and will provide up to or above 80% removal of the increase in TSS load resulting from this development.

CZP APPLICATION

ATTACHMENT "L"

BMP's for Surface Streams

The runoff from this site is treated by natural and engineered vegetated filter strips and a water quality pond (batch detention). This will prevent the pollutants from entering the adjacent stream until they are reduced to an acceptable level. There are no sensitive features located within the project site of affected by the project construction. All offsite flows are diverted with temporary diversion dykes/berms or permanent swales to flow into proposed/existing drainage channels that feed into the tributary of Onion Creek.

CZP APPLICATION

ATTACHMENT "M"
Construction Plans

Applicable portions of the Construction Plans are provided at the end of this report.

CZP APPLICATION

ATTACHMENT "N"
Inspection, Maintenance, Repair and Retrofit Plan

PROJECT DESCRIPTION

The **Ranch at Caliterra** project is a 200.025-acre proposed development consisting of 234 single family lots, located to the Northwest of existing Section 3-9 of the Caliterra Subdivision. This site is located in City of Dripping Springs' ETJ and is in Hays County. The project is in the HCDD No.1 Municipal Utility District. The site is currently developed with a single-family residence and barn structures. The project lies over the Edwards Aquifer Contributing Zone in Hays County and is subject to the TCEQ Contributing Zone regulations. The project is proposed as a continuation of the Caliterra Subdivision and is subject to the Development Agreement between City of Dripping Springs and Development Solutions CAT, LLC, Owner of Caliterra Subdivision, recorded in Vol. 4978, Page 215, OPR of Hays County, Texas. The project is also subject to the Water Agreement between the developer and the Dripping Springs Water Supply Corporation. The run-off from this project will be treated by engineered and natural vegetative strip. These Best Management Practices will remove the required overall load to more than 80% for the site.

RECORD KEEPING

A record of the routine maintenance of the BMP's shall be logged and kept by the Home Owners Association. If any non-routine maintenance is required, the MUD District shall be responsible for the record keeping.

DEVELOPER CONTACT INFORMATION

CF CSLK Carter, LLC
Mr. Gregory Rich
12222 Merit Drive, Suite 1020
Austin, Texas 75251

Gregory L. Rich 1/31/23

Developer/Owner Signature **Date**

PEST MANAGEMENT

The following Integrated Pest Management plan for The Ranch at Caliterra assume that primary pests of concern will be Aphids, Beetles, Beneficial Insects, Caterpillars, Fertilizing Recommendations, Fire Ants, Fleas, Galls, Hiring a Landscape Professional, Landscaping, Lawn Care, Lawn Problems, Mosquito's, Poison Ivy, Pruning, Spider Mites, Product Ratings, Scale, Snails, Stink Bugs, and Weeks. The anticipated pest problems have been derived from the type of pests that typically inhabit subdivisions and developments within local proximity to the project.

Non-toxic and less persistent control products should be employed in controlling pests before more persistent products are considered. More persistent control products should only be used after all other tactics have been employed. It is advisable to utilize a pest control professional, familiar with the IPM approaches, before resorting to highly toxic and persistent chemicals. Regularly scheduled pesticide applications are not considered to be part of the Integrated Pest management.

BATCH DETENTION BASIN

Detention basins have moderate to high maintenance requirements, depending on the extent to which future maintenance needs are anticipated during the design stage. Responsibilities for both routine and nonroutine maintenance tasks need to be clearly understood and enforced. If regular maintenance and inspections are not undertaken, the basin will not achieve its intended purposes.

There are many factors that may affect the basin's operation and that should be periodically checked. These factors can include mowing, control of pond vegetation, removal of accumulated bottom sediments, removal of debris from all inflow and outflow structures, unclogging of orifice perforations, and the upkeep of all physical structures that are within the detention pond area. One should conduct periodic inspections and after each significant storm. Remove floatables and correct erosion problems in the pond slopes and bottom. Pay particular attention to the outlet control perforations for signs of clogging. If the orifices are clogged, remove sediment and other debris. The generic aspects that must be considered in the maintenance plan for a detention facility are as follows:

Routine Maintenance

Inspections:
Basins should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. When possible, inspections should be conducted during wet weather to determine if the pond is meeting the target detention times. In particular, the extended detention control device should be regularly inspected for evidence of clogging, or conversely, for too rapid a release. If the design drawdown times are exceeded by more than 24 hours, then repairs should be scheduled immediately. The upper stage pilot channel, if any, and its flow path to the lower stage should be checked for erosion problems. During each inspection, erosion areas inside and downstream of the facility should be identified and repaired or revegetated immediately.

Mowing:
The upper stage, side slopes, embankment, and emergency spillway of an extended detention basin must be mowed regularly to discourage woody growth and control weeds. Grassy areas in and around basins should be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing of grass is performed, a mulching mower should be used, or grass clippings should be caught and removed.

Debris and Litter Removal:
Debris and litter will accumulate near the extended detention control device and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.

Erosion Control:
The pond side slopes, emergency spillway, and embankment all may periodically suffer from slumping and erosion, although this should not occur often if the soils are properly compacted during construction. Regrading and revegetation may be required to correct the problems. Similarly, the channel connecting an upper stage with a lower stage may periodically need to be replaced or repaired.

Structural Repairs and Replacement:
With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. These repairs should include patching of cracked concrete, sealing of voids, and removal of vegetation from cracks and joints. The various inlet/outlet and riser works in a basin will eventually deteriorate and must be replaced. Public works experts have estimated that corrugated metal pipe (CMP) has a useful life of about 25 yrs, whereas reinforced concrete barrels and risers may last from 50 to 75 yrs.

Nuisance Control:
Standing water (not desired in a detention basin) or soggy conditions within the lower stage of the basin can create nuisance conditions for nearby residents. Odors, mosquitoes, weeds, and litter are all occasionally perceived to be problems. Most of these problems are generally a sign that regular inspections and maintenance are not being performed (e.g., mowing, debris removal, clearing the outlet control device).

Non-Routine Maintenance

Sediment Removal:
When properly designed, dry detention basins will accumulate quantities of sediment over time. Sediment accumulation is a serious maintenance concern in extended detention dry ponds for several reasons. First, the sediment gradually reduces available stormwater management storage capacity within the basin. Second, sediment accumulation can make dry extended detention basins very unsightly. Third, and perhaps most importantly, sediment tends to accumulate around the control device. Sediment deposition increases the risk that the orifice will become clogged, and gradually reduces storage capacity reserved for pollutant removal. Sediment can also be resuspended if allowed to accumulate over time and escape through the hydraulic control to downstream channels and streams. For these reasons, accumulated sediment needs to be removed from the lower stage when sediment buildup fills 20% of the volume of the basin or at least every 10 years.

VEGETATIVE FILTER STRIPS

A clear requirement for Vegetative filter strips is that a firm commitment be made to carry out both routine and non-routine maintenance tasks. The nature of the maintenance requirements is outlined below, along with design tips that can help to reduce the maintenance burden (modified from Young et al., 1996).

Routine Maintenance

Mowing:
The vegetative filter strip should be mowed twice a year to prevent woody growth and control weeds.

Inspections:
Vegetative filter strips should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. When possible, inspections should be conducted during wet weather to determine if the basin is functioning properly. There are many functions and characteristics of these BMPs that should be inspected. The embankment should be checked for erosion, weeds, and tree growth. The adequacy of grass erosion protection measures

should be checked. During semi-annual inspections, replace any dead or displaced vegetation. Replanting of various species of vegetation may be required at first, until a viable mix of species is established. Voids and undermining should be patched/filled to provide maximum filtration. Trees and root systems should be removed to prevent growth and reduction of the effect of the vegetative filter strip.

Debris and Litter Removal:
As part of periodic mowing operations and inspections, debris and litter should be removed from the surface of the vegetative strip. Particular attention should be paid to floatable debris around the riser, and the outlet should be checked for possible clogging.

Erosion Control:
The slopes and grade may periodically suffer from slumping and erosion. Corrective measures such as regrading and revegetation may be necessary.

Nuisance Control:
Standing water (not desired in a vegetative filter strip) or soggy conditions within the vegetative strip can create nuisance conditions for nearby residents. Odors, mosquitoes, weeds, and litter are all occasionally perceived to be problems. Most of these problems are generally a sign that regular inspections and maintenance are not being performed (e.g., mowing and debris removal).

Non-routine maintenance

Sediment Removal:
As might be expected, the accumulated sediment can reduce both the appearance and pollutant removal performance of the vegetative filter strip. Sediment accumulated in the filter strip area should be removed every two years to prevent accumulation.

CZP APPLICATION

ATTACHMENT "P"

Measures for Minimizing Surface Stream Contamination

The project minimizes surface stream contamination by maintaining the natural occurring sheet flow across lots and utilizing natural and engineered vegetated filter strips. Engineered vegetated filter strips straddle the roadways providing filtration for the roadway contaminates. Within the single-family resident lots, engineered filter strips border the downstream side prior to being collected in roadside swales and discharged offsite. A portion of the runoff will be treated and collected in a batch detention pond prior to releasing.

IV. TEMPORARY STORMWATER SECTION (TCEQ-0602)

Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Temporary Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Quynn Dusek, P.E.

Date: 1/27/2023

Signature of Customer/Agent:

Regulated Entity Name: The Ranch at Caliterra

Project Information

Potential Sources of Contamination

Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.

1. Fuels for construction equipment and hazardous substances which will be used during construction:

   ☐ The following fuels and/or hazardous substances will be stored on the site: _____

   These fuels and/or hazardous substances will be stored in:

   ☐ Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

☒ Fuels and hazardous substances will not be stored on the site.

2. ☒ **Attachment A - Spill Response Actions**. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

3. ☒ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. ☒ **Attachment B - Potential Sources of Contamination**. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

5. ☒ **Attachment C - Sequence of Major Activities**. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.

   ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.

   ☒ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Onion Creek

Temporary Best Management Practices (TBMPs)

Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the Technical Guidance Manual for guidelines and specifications. All structural BMPs must be shown on the site plan.

7. ☒ **Attachment D – Temporary Best Management Practices and Measures**. TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

☒ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. ☐ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

   ☐ **Attachment E - Request to Temporarily Seal a Feature**. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

   ☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. ☒ **Attachment F - Structural Practices**. A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.

10. ☒ **Attachment G - Drainage Area Map**. A drainage area map supporting the following requirements is attached:

    ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

    ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

    ☒ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

    ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations**. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

☒ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.

13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

Examples: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation.

17. ☒ **Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices**. A schedule of the interim and permanent soil stabilization practices for the site is attached.

18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

20. ☒ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.

21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

TEMPORARY STORMWATER SECTION

ATTACHMENT "A"
Spill Response Actions

Below is the general procedure to follow in the event of a spill or loss of product resulting in an impact or potential impact to soil, surface water, groundwater or sanitary sewer system.

Notifications:

- 911 (if immediate danger to life or health)
- General Contractor Site Superintendent.
- Environmental Emergency Response Contractor (if necessary).
- For spills that exceed the reportable quantity established per federal and state regulations, also contact the Texas Commission on Environmental Quality (TCEQ) at 800-832-8224 and the National Response Center at 800-424-8802.

Cleanup:

- Impacted soil or used absorbent material shall be picked up and stored in a waterproof, leak proof manner such as on plastic sheeting and covered with plastic sheeting, a drum or roll-off container with a lid or cover that can be secured, or a 5-gallon bucket with a secure lid.
- The Site Superintendent or Emergency Response Coordinator will work with TCEQ to determine the appropriate sampling and disposal protocols for handling impacted soils, absorbent materials, or water.
- Provide proof of sampling and disposal such as laboratory analytical reports and waste manifests to TCEQ.

Follow-up:

- Within 48 hours send a written report to TCEQ describing the cause of the release, the total quantity of material discharged, description of corrective action taken or still in progress to be completed, notifications made, and plans for preventing recurrence.
- Complete any follow-up reports required by the TCEQ or National Response Center within the allowable time frames.
- Submit a copy of documentation of disposal to TCEQ and US EPA at the time of disposal. Also submit a copy of the final uniform hazardous waste manifest "designated facility to generator copy" by the time of environmental closeout.

REPORTABLE QUANTITY TABLE

Kind of spill	Where discharged	Reportable quantity	Rule, statute, or responsible agency
Hazardous substance	onto land	"Final RQ" in Table 302.4 in 40 CFR 302.4 (see attached)	30 TAC 327
	into water	"Final RQ" or 100 lbs, whichever is **less**	30 TAC 327
Any Oil	coastal waters	as required by the Texas General Land Office	Texas General Land Office
Crude Oil, Oil that is neither a petroleum product nor used oil	onto land	210 gallons (five barrels)	30 TAC 327
	Directly into water	enough to create a sheen	30 TAC 327
Petroleum Product, used oil	onto land from an exempt PST facility	210 gallons (five barrels)	30 TAC 327
	onto land, or onto land from a non-exempt PST facility	25 gallons	30 TAC 327
	directly into water	enough to create a sheen	30 TAC 327
Industrial solid waste or other substances	into water	100 lbs	30 TAC 327
From petroleum storage tanks, underground or aboveground	into water	enough to create a sheen on water	30 TAC 334.75-81
From petroleum storage tanks, underground or aboveground	onto land	25 gallons or equal to the RQ under 40 CFR 302	30 TAC 327
Other substances that may be useful or valuable and are not ordinarily considered to be waste, but will cause pollution if discharged into water in the state	into water	100 lbs	30 TAC 327

TEMPORARY STORMWATER SECTION

ATTACHMENT "B"

Potential Sources of Contamination

Potential sources of contamination include the following:

- Gasoline, Diesel, and Hydraulic Fluid from construction equipment
- Asphalt products
- Construction Materials
- Trash and Debris
- Paint
- Concrete
- Gypsum from sheet rock
- Sediment

All materials shall be hauled in a manner consistent with the manufacturer's recommendations. Disposal of waste material shall be in conformance with all state and local laws

TEMPORARY STORMWATER SECTION

ATTACHMENT "C"
Sequence of Major Activities

Sequence of Construction Disturbance

1. Install and maintain Erosion Control and Tree Protection per the Approved Plans and specifications prior to any clearing and grubbing, grading, excavating, etc... Notify Construction Inspection Division when installed.
2. Prior to beginning construction, the owner or his representative shall hold a Pre-Construction Conference between TCEQ, Williamson County, Contractor, and any other affected parties. Notify TCEQ at least 48 hours prior to the time of the conference and 48 hours prior to beginning construction. Prior to Pre-Construction Conference.
3. Hold Pre-Construction Conference with contractor, TCEQ, EV Inspector, Engineer, and owner or his representative.
4. Begin grade of detention pond.
5. Rough grade roadway. (Estimate of disturbed area = 14.29 ac)
6. Begin installation of storm sewer. Upon completion, restore as much disturbed areas as possible, particularly channels and large open areas. (Estimate of disturbed area = 0.81 ac)
7. Regrade streets to subgrade (Estimate of disturbed area = 11.43 ac)
8. Ensure that all underground utility crossings are completed. Lay first course base material on all streets. (11.43 ac)
9. Install curb and gutter. (Estimate of disturbed area = 2.04 ac)
10. Lay final base course on all streets. (11.43 ac)
11. Lay asphalt. (11.43 ac)
12. Clean site and revegetate all disturbed area according to the plans and specifications. Stabilization measures should include seeding and/or mulching.
13. Complete permanent erosion control and restoration of site vegetation.
14. Project Engineer to provide a written concurrence letter, and scheduling final inspection with EV Inspector, prior to the removal of erosion controls.
15. Remove and dispose of temporary erosion/sedimentation control measures.
16. Complete any necessary final dress up of areas disturbed.
17. Conduct a final inspection and complete all punch list items.

Clearing and grubbing under a development permit, solely for the purpose of surveying and soil exploration, shall be a hand-cutting or blade-up operation.

TEMPORARY STORMWATER SECTION

ATTACHMENT "D"

Temporary Best Management Practices and Measures

All temporary BMP's will be installed prior to the beginning of construction and remain in place until revegetation has been completed or the future connecting section is built. These temporary measures will include interceptor swales, tree protections, outlet stabilization, diversion dikes, rock berms silt fences, inlet protection, concrete washouts and stabilized construction entrances. These erosion control devices will prevent the transport of sediment generated from this site. The portion of flow from offsite will be redirected into a diversion dike with temporary rock berms and channeled through the site back to its existing path. The silt fences will be placed along the down gradient areas of the site to prevent any sediment from entering surface streams. The erosion control devices proposed with this project allow for the passing of water while retaining any sediment or trash. This will allow for the flow to maintain its natural course. No sensitive features onsite.

TEMPORARY STORMWATER SECTION

ATTACHMENT "F"

Structural Practices

Structural practices of diverting runoff around exposed soils will consist of silt fence and rock berm, which will be utilized to catch any pollutants from leaving the site. The only runoff aimed at exposed soils will be from the site itself. Inlet protections will prevent the sediment from entering the constructed area inlets.

TEMPORARY STORMWATER SECTION

ATTACHMENT "G"
Drainage Area Map

An overall drainage area map is included within the plan set submitted with this application. This site has several hill tops that disperses water in all directions, majority that is collected within a tributary of Onion Creek onsite. A temporary sediment basin is not feasible due to the steep slopes and creek buffer within site. A permanent basin is design to encompass the sediments.

TEMPORARY STORMWATER SECTION

ATTACHMENT "I"

Inspection and maintenance for BMP's

The Best Management Practices installed during construction will be maintained in accordance with the requirements of the EPA's NPDES/TPDES storm water pollution prevention program (SWPPP). The following maintenance procedures shall be followed until permanent stabilization is complete.

Silt Fence

a) Inspect weekly or after each rainfall event and repair or replacement shall be made promptly as needed.
b) Silt Fence shall be removed when the site is completely stabilized so as to not block or impede storm flow or drainage.
c) Accumulated silt shall be removed when it reaches a depth of 6 inches. The Silt shall be disposed of on an approved site and in such a manner that will not contribute to additional siltation.

Stabilized Construction Entrance

a) The entrance shall be maintained in a condition that will prevent tracking or flowing of sediment onto a public roadway. This may require periodic top dressing with additional stone as conditions demand, as well as repair and clean out of any devices used to trap sediment.
b) Entrance must be properly graded to incorporate a drain swale or similar measure to prevent runoff from leaving the construction site.

Inlet Protection

a) Inspection shall be made weekly or after each rainfall event and replacement or repair shall be made promptly as needed.
b) Accumulated silt shall be removed when it reaches a depth of 6 inches. The Silt shall be disposed of on an approved site and in such a manner that will not contribute to additional siltation
c) The dyke shall be removed when the site is completely stabilized so as to not block or impede storm flow or drainage.

Concrete Washout

a) Inspection shall be made daily or after each rainfall event to check for leaks, identify any plastic linings and sidewalls which have been damaged by construction activities.
b) When the washout container is filled over 75 % of its capacity, the washwater should be vacuumed off or allowed to evaporate to avoid overflows. When the remaining cementitious solids have hardened, they should be removed and recycled.
c) Damages to the container should be repaired promptly and as needed.
d) Before heavy rains, the washout containers liquid level should be lowered or the container should be covered to avoid an overflow during the rain event.

The owner shall hire an E&S compliance company to inspect E&S measures and keep reports of onsite inspections with deficiencies and solutions.

TEMPORARY STORMWATER SECTION

ATTACHMENT "J"

Schedule of Interim and Permanent Soil Stabilization Practices

The project's limits of construction are confined to the existing right-of-ways, easements, and project site. The project will begin with rough cutting of site and pond grading. The utilities will be installed. The backfill behind the curbs and paving will be completed and within 120 days. The backfill behind the curbs and embankments will be revegetated with hydromulch mix to be determined by the City of Dripping Springs to stabilize the soil. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

V. APPLICATION FEE FORM

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: The Ranch at Caliterra
Regulated Entity Location: West of Caliterra Parkway off of Ranch Road 12 & Mt. Gainor Rd
Name of Customer: CF CSLK Carter, LLC
Contact Person: Greg Rich Phone: (972) 960-2777
Customer Reference Number (if issued):CN 604534438
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☒ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment**. This payment is being submitted to:

☒ Austin Regional Office
☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☐ Recharge Zone ☒ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	200.03 Acres	$ 8,000.00
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____

Date: 6/14/2023

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

Project	*Project Area in Acres*	*Fee*
One Single Family Residential Dwelling	< 5	$650
Multiple Single Family Residential and Parks	< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	***Fee***
Extension of Time Request	$150

VI. AGENT AUTHORIZATION FORM

STATE OF TEXAS §

COUNTY OF DALLAS §

Agent Authorization Form

The Ranch at Caliterra

City of Dripping Springs - Hays County

Subdivision and related site and offsite Improvements

On behalf of **CF CLSK CARTER LLC,** I, **Greg Rich, Attorney** do hereby designate **Brett Pasquarella, P.E., Quynn Dusek, P.E., and Bill E. Couch, P.G., AICP CEP of CARLSON, BRIGANCE AND DOERING ENGINEERING, INC. as the AUTHORIZED AGENTS** for the processing of applications, related plans, permits, and documents for professional services, including Surveying, Engineering, Planning, Entitlements, Permitting, Construction and other similarly related services for projects within City of Dripping Springs, its ETJ, and / or Hays County Texas for the purpose of providing Land Development, Utility and Entitlement Services.

Signed: _____ Date: 6-7-2022

Greg Rich
Attorney-in-Fact

STATE OF TEXAS §

COUNTY OF DALLAS §

Before me, Jennifer Warheit, Notary Public, on this day personally appeared **Greg Rich,** of **CF CLSK CARTER LLC,** a Delaware Corporation, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged that he executed the same for the purposes and consideration therein expressed on behalf of said entity.

Given under my hand and seal of office on June 7, 2022.

JENNIFER WARHEIT
Notary Public, State of Texas
Comm. Expires 08-05-2022
Notary ID 12429327-3

_____
Notary Public, State of Texas

CF CLSK CARTER LLC
A Delaware Limited Liability Corporation

VII. TCEQ CORE DATA FORM

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN		RN

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	1/30/2023

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*
CF CSLK Carter, LLC	

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
804382294	32082568489	87-4251048	

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☐ **Yes** ☒ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:	12222 Merit Drive, Suite 1020							
	City	Dallas	State	TX	ZIP	75251	ZIP + 4	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	grich@siepiela.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 549-7777		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

The Ranch at Caliterra

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	Mt. Gainor Road / Soaring Hill Road							
	City	Dripping Springs	**State**	TX	**ZIP**	78620	**ZIP + 4**	
24. County								

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	Located at the end of Soaring Hill Road off Premier Park Loop.

26. Nearest City	**State**	**Nearest ZIP Code**
Dripping Springs	TX	78620

27. Latitude (N) In Decimal:	30.182996	**28. Longitude (W) In Decimal:**	98.116789

Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
1521		236100	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Singal Family Subdivision

34. Mailing Address:	**CF CSLK Carter, LLC**							
	12222 Merit Drive, Suite 1020							
	City	**Dallas**	**State**	**TX**	**ZIP**	**75251**	**ZIP + 4**	

35. E-Mail Address:	**grich@siepiela.com**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** ***(if applicable)***
(512) 549-7777		**( ) -**

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☒ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

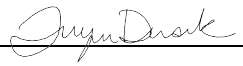
40. Name:	Quynn Dusek	**41. Title:**	P.E.

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 280-5160		( ) -	quynn@cbdeng.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Carlson, Brigance and Doering, Inc.	**Job Title:**	P.E., Project Manager
Name *(In Print):*	Quynn Dusek, P.E.	**Phone:**	(512) 280- **5160**

Signature:		Date:	6/14/2023

VIII. WATER QUALITY DESIGN

IMPERVIOUS COVER CALCULATIONS

Basin	DA Name	TOTAL AREA	TOTAL AREA	IMPERVIOUS ROADS			IMPERVIOUS ROAD TOTAL		IMPERVIOUS SIDEWALKS		IMPERVIOUS SIDWALK TOTAL		LOT COUNT		IMP. LOTS TOTAL	IMP. LOTS TOTAL	IMPERVIOUS TOTAL	IMPERVIOUS PERCENT
				60' -75' ROW	60' ROW	ROW Varies												
				26	32	16			4	5			10K<X<15K	15K<X<1 AC				
		SF	ACRES	BC-BC	BC-BC	BC-BC	SF	AC	FT	FT	SF	AC	3500	5000	SF	AC		%
VFS	1	3,461,609	79.47	14,762	1,878	2,818	488,996	11.23	0	0	0	0.00	65	71	582,500	13.37	24.598	30.95%
Batch Detention Pond	2	1,519,471	34.88	3,064	582	0	98,288	2.26	0	0	0	0.00	61	6	243,500	5.59	7.846	22.49%
Untreated		1,163,320	26.71	1,260	0	2,253	68,808	1.58	0	0	0	0.00	33	23	230,500	5.29	6.871	25.73%
Open Space		2,855,486	65.55	0	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.000	0.00%
Total		8,713,085	200.02	16,022	1,878	5,071	557,804	12.81	0	0	0	0.00	136	98	966,000	22.18	34.982	17.49%

WATER QUALITY LOAD REMOVAL CALCULATIONS

BASIN SUMMARY TABLE & BMP REMOVAL					
BMP SELECTED	DRAINAGE AREA (AC.)	IMP. COVER (AC.)	IMP. COVER (%)	TSS AVAILABLE (LBS.)	TSS REMOVED (LBS.)
ENGINEERED & NATURAL FILTER STRIPS	79.47	24.60	30.95%	24,704	24,704
BATCH DETENTION POND A	34.88	7.85	22.49%	8,591	8,591
		TOTAL LBS. TSS REMOVED =			33,295
		TOTAL LBS. TSS REQUIRED =			31,975

TSS REMOVAL SPREADSHEETS
Optional Enhanced Measures

6/8/2023

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

Additional information is provided for cells with a red triangle in the upper right corner. Place the
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the e

1. The Required Load Reduction for the total project: Calculations from RG-348

Page 3-29 Equation 3.3: $L_M = 27.7(A_N \times P)$

where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the prop
A_N = Net increase in impervious area for the projec
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	**Hays**	
Total project area included in plan * =	**200.03**	acres
Predevelopment impervious area within the limits of the plan * =	**0.00**	acres
Total post-development impervious area within the limits of the plan* =	**34.98**	acres
Total post-development impervious cover fraction * =	**0.17**	
P =	**33**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**31975**	lbs.

*** The values entered in these fields should be for the total project area.**

Number of drainage basins / outfalls areas leaving the plan area = **2**

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = **1**

Total drainage basin/outfall area =	**79.47**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**24.60**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.31**	
$L_{M\ THIS\ BASIN}$ =	**22485**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Vegetated Filter Strips**
Removal efficiency = **85** percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A

where:

A_C = Total On-Site drainage area in the BMP catch
A_I = Impervious area proposed in the BMP catchm
A_P = Pervious area remaining in the BMP catchme
L_R = TSS Load removed from this catchment area

A_C =	**79.47**	acres
A_I =	**24.60**	acres
A_P =	**54.87**	acres
L_R =	**24704**	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ =	**24704**	lbs.
F =	**1.00**	

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Rainfall Depth =	**4.00**	inches
Post Development Runoff Coefficient =	**0.31**	
On-site Water Quality Volume =	**361284**	cubic feet

Calculations from RG-348

Off-site area draining to BMP =	**0.00**	acres
Off-site Impervious cover draining to BMP =	**0.00**	acres
Impervious fraction of off-site area =	**0**	
Off-site Runoff Coefficient =	**0.00**	
Off-site Water Quality Volume =	**0**	cubic feet

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009
OPTIONAL ENCHANGED MEASURES

Project Name: The Ranch at Caliterra
Date Prepared: 5/31/2023

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.7(A_N \times P)$

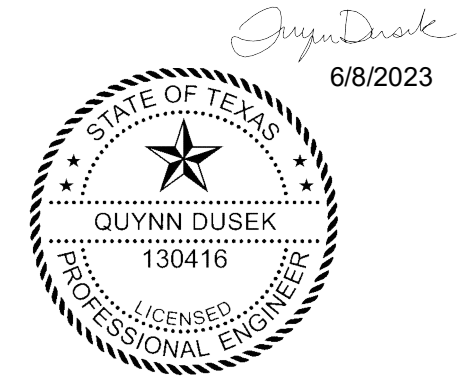
where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Hays	
Total project area included in plan * =	200.03	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	34.98	acres
Total post-development impervious cover fraction * =	0.17	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	31975	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 2



6/8/2023

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	2	
Total drainage basin/outfall area =	34.88	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	7.85	acres
Post-development impervious fraction within drainage basin/outfall area =	0.22	
$L_{M\ THIS\ BASIN}$ =	7172	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

Aqualogic Cartridge Filter
Batch Detention
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	**34.88**	acres
A_I =	**7.85**	acres
A_P =	**27.03**	acres
L_R =	**8591**	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ =	**8591**	lbs.
F =	**1.00**	

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	**4.00**	inches
Post Development Runoff Coefficient =	**0.24**	
On-site Water Quality Volume =	**122158**	cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP =	**0.00**	acres
Off-site Impervious cover draining to BMP =	**0.00**	acres
Impervious fraction of off-site area =	**0**	
Off-site Runoff Coefficient =	**0.00**	
Off-site Water Quality Volume =	**0**	cubic feet
Storage for Sediment =	**24432**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**146590**	cubic feet

IX. APPLICABLE CONSTRUCTION PLAN SHEETS

THE RANCH AT CALITERRA

STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

SHEET LIST

Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL NOTES
3	FINAL PLAT (1 & 2 OF 11)
4	FINAL PLAT (3 & 4 OF 11)
5	FINAL PLAT (5 & 6 OF 11)
6	FINAL PLAT (7 & 8 OF 11)
7	FINAL PLAT (9 & 10 OF 11)
8	FINAL PLAT (11 OF 11)
9	OVERALL EROSION SEDIMENTATION CONTROL PLAN
10	EROSION SEDIMENTATION CONTROL PLAN (1 OF 3)
11	EROSION SEDIMENTATION CONTROL PLAN (2 OF 3)
12	EROSION SEDIMENTATION CONTROL PLAN (3 OF 3)
13	EROSION SEDIMENTATION CONTROL DETAILS
14	OVERALL DRAINAGE PLAN
15	DRAINAGE PLAN (1 OF 3)
16	DRAINAGE PLAN (2 OF 3)
17	DRAINAGE PLAN (3 OF 3)
18	DRAINAGE CALCULATIONS
19	TCEQ BMP PLAN
20	EXISTING HYDROLOGY
21	DEVELOPED HYDROLOGY
22	FLOODPLAIN MAP
23	HC CARTER WAY PLAN LT (0+00-7+02.28) RT (0+00-5+00)
24	HC CARTER WAY PROFILE LT (0+00-7+02.28) RT (0+00-5+00)
25	HC CARTER WAY PLAN LT (7+02.28-16+00) RT (5+00-14+07.16)
26	HC CARTER WAY PROFILE LT (7+02.28-16+00) RT (5+00-14+07.16)
27	HC CARTER WAY PLAN LT (16+00-END) RT (14+07.16-END)
28	HC CARTER WAY PROFILE LT (16+00-END) RT (14+07.16-END)
29	WHISKEY BARREL DRIVE PLAN & PROFILE (0+00-8+60)
30	WHISKEY BARREL DRIVE PLAN & PROFILE (8+60-17+00)
31	WHISKEY BARREL DRIVE PLAN & PROFILE (17+00-25+00)
32	WHISKEY BARREL DRIVE PLAN & PROFILE (25+00-33+00)
33	WHISKEY BARREL DRIVE PLAN & PROFILE (33+00-END)
34	GARDEN SPRING LOOP PLAN & PROFILE (0+00-8+40)
35	GARDEN SPRING LOOP PLAN & PROFILE (8+40-16+00)
36	GARDEN SPRING LOOP PLAN & PROFILE (16+00-21+60)
37	GARDEN SPRING LOOP PLAN & PROFILE (21+60-END)
38	HAWKTREE ROAD PLAN & PROFILE (0+00-END)
39	BROOKHILL DRIVE PLAN & PROFILE (0+00-END)
40	DREAM CATCHER LOOP PLAN & PROFILE (0+00-8+00)
41	DREAM CATCHER LOOP PLAN & PROFILE (8+00-17+00)
42	DREAM CATCHER LOOP PLAN & PROFILE (17+00-25+00)
43	DREAM CATCHER LOOP PLAN & PROFILE (25+00-33+00)
44	DREAM CATCHER LOOP PLAN & PROFILE (33+00-41+00)
45	DREAM CATCHER LOOP PLAN & PROFILE (41+00-END)
46	BIRDHOUSE PASS (0+00-END)
47	HICKORY GROVE DRIVE (0+00-8+60)
48	HICKORY GROVE DRIVE (8+60-END)
49	PICKENS DRIVE (0+00-END)
50	FLY CATCHER COVE (0+00-4+00)
51	FLY CATCHER COVE (4+00-END)
52	ROBINS EGG LOOP (0+00-8+00)
53	ROBINS EGG LOOP (8+00-15+00)
54	ROBINS EGG LOOP (15+00-END)
55	OVERALL STORM SEWER PLAN
56	STORM SEWER LINES A PLAN & PROFILE (0+00-END)
57	STORM SEWER LINES B, C & D PLAN & PROFILE (0+00-END)
58	STORM SEWER LINES E, F & G PLAN & PROFILE (0+00-END)
59	STORM SEWER LINES H, I & J PLAN & PROFILE (0+00-END)
60	STORM SEWER LINES K, L & M PLAN & PROFILE (0+00-END)
61	STORM SEWER LINES N, O & Q PLAN & PROFILE (0+00-END)
62	STORM SEWER LINE P PLAN & PROFILE (0+00-END)
63	STORM SEWER LINES R & S PLAN & PROFILE (0+00-END)
64	BATCH POND A PLAN VIEW
65	BATCH POND A PROFILE VIEW & DETAILS
66	OVERALL WATER DISTRIBUTION PLAN
67	WATER DISTRIBUTION PLAN (1 OF 5)
68	WATER DISTRIBUTION PLAN (2 OF 5)
69	WATER DISTRIBUTION PLAN (3 OF 5)
70	WATER DISTRIBUTION PLAN (4 OF 5)
71	WATER DISTRIBUTION PLAN (5 OF 5)
72	12" WATER LINE A (0+00 TO 9+00)
73	12" WATER LINE A (9+00 TO 18+00)
74	12" WATER LINE A (18+00 TO 26+00)
75	12" WATER LINE A (26+00 TO 35+00)
76	12" WATER LINE A (35+00 TO END)
77	OVERALL TREATED EFFLUENT PLAN (1 OF 3)
78	OVERALL TREATED EFFLUENT PLAN (2 OF 3)
79	OVERALL TREATED EFFLUENT PLAN (3 OF 3)
80	OVERALL WASTEWATER COLLECTION PLAN
81	WASTEWATER LINE A (0+00 TO 8+75)
82	WASTEWATER LINE A (8+75 TO END)
83	WASTEWATER LINE B (0+00 TO 8+00)
84	WASTEWATER LINE B (8+00 TO 16+00)
85	WASTEWATER LINE B (16+00 TO 23+00)
86	WASTEWATER LINE B (23+00 TO END)
87	WASTEWATER LINE C (0+00 TO 7+00)
88	WASTEWATER LINE C (7+00 TO END)
89	WASTEWATER LINE D (0+00 TO END)
90	WASTEWATER LINE E (0+00 TO 8+00)
91	WASTEWATER LINE E (8+00 TO 15+50)
92	WASTEWATER LINE E (15+50 TO END)
93	WASTEWATER LINE F (0+00 TO END)
94	WASTEWATER LINE G (0+00 TO 7+00)
95	WASTEWATER LINE G (7+00 TO 14+00)
96	WASTEWATER LINE G (14+00 TO END)
97	WASTEWATER LINE H (0+00 TO END)
98	WASTEWATER LINES I-J-K (0+00 TO END)
99	OVERALL GRADING PLAN
100	GRADING PLAN (1 OF 3)
101	GRADING PLAN (2 OF 3)
102	GRADING PLAN (3 OF 3)
103	ROUNDABOUT & MEDIAN GRADING PLAN (1 OF 3)
104	ROUNDABOUT & MEDIAN GRADING PLAN (2 OF 3)
105	ROUNDABOUT & MEDIAN GRADING PLAN (3 OF 3)
106	OVERALL TREE PLAN
107	TREE PLAN (1 OF 3)
108	TREE PLAN (2 OF 3)
109	TREE PLAN (3 OF 3)
110	TREE LIST (1 OF 6)
111	TREE LIST (2 OF 6)
112	TREE LIST (3 OF 6)
113	TREE LIST (4 OF 6)
114	TREE LIST (5 OF 6)
115	TREE LIST (6 OF 6)
116	STANDARD CONSTRUCTION DETAILS (1 OF 5)
117	STANDARD CONSTRUCTION DETAILS (2 OF 5)
118	STANDARD CONSTRUCTION DETAILS (3 OF 5)
119	STANDARD CONSTRUCTION DETAILS (4 OF 5)
120	STANDARD CONSTRUCTION DETAILS (5 OF 5)
121	WATER DETAILS (1 OF 2)
122	WATER DETAILS (2 OF 2)
123	WASTEWATER DETAILS (1 OF 3)
124	WASTEWATER DETAILS (2 OF 3)
125	WASTEWATER DETAILS (3 OF 3)
126	OVERALL SIGNAGE, STRIPING, & LIGHTING PLAN
127	SIGNAGE, STRIPING, & LIGHTING PLAN (1 OF 4)
128	SIGNAGE, STRIPING, & LIGHTING PLAN (2 OF 4)
129	SIGNAGE, STRIPING, & LIGHTING PLAN (3 OF 4)
130	SIGNAGE, STRIPING, & LIGHTING PLAN (4 OF 4)
131	TRAFFIC CONTROL PLAN
132	TRAFFIC CONTROL DETAILS
133	GRASSY SWALE ALONG HC CARTER WAY 15+00-25+41
134	GRASSY SWALE ALONG WHISKEY BARREL DRIVE 0+00-8+60
135	GRASSY SWALE ALONG WHISKEY BARREL DRIVE 8+60-17+00
136	GRASSY SWALE ALONG WHISKEY BARREL DRIVE 17+00-25+00
137	GRASSY SWALE ALONG WHISKEY BARREL DRIVE 25+00-33+00
138	GRASSY SWALE ALONG WHISKEY BARREL DRIVE 33+00-END
139	GRASSY SWALE ALONG GARDEN SPRING 0+00-8+40
140	GRASSY SWALE ALONG GARDEN SPRING 8+40-16+00
141	GRASSY SWALE ALONG GARDEN SPRING 16+00-21+60
142	GRASSY SWALE ALONG GARDEN SPRING 21+60-END
143	GRASSY SWALE ALONG HAWKTREE ROAD 0+00-END
144	GRASSY SWALE ALONG BROCKHILL DRIVE 0+00-END
145	GRASSY SWALE ALONG HICKORY GROVE DRIVE 0+00-8+60
146	GRASSY SWALE ALONG DREAM CATCHER LOOP 0+00-8+00
147	GRASSY SWALE ALONG DREAM CATCHER LOOP 8+00-17+00
148	GRASSY SWALE ALONG DREAM CATCHER LOOP 17+00-25+00
149	GRASSY SWALE ALONG DREAM CATCHER LOOP 25+00-33+00
150	GRASSY SWALE ALONG DREAM CATCHER LOOP 33+00-41+00
151	GRASSY SWALE ALONG DREAM CATCHER LOOP 41+00-END
152	GRASSY SWALE ALONG BIRDHOUSE PASS 0+00-END
153	GRASSY SWALE ALONG FLY CATCHER COVE 0+00-4+00
154	GRASSY SWALE ALONG FLY CATCHER COVE 4+00-END
155	GRASSY SWALE ALONG ROBINS EGG LOOP 0+00-8+00
156	GRASSY SWALE ALONG ROBINS EGG LOOP 8+00-15+00
157	GRASSY SWALE ALONG ROBINS EGG LOOP 15+00-END
158	GRASSY SWALE 1 (1 OF 3)
159	GRASSY SWALE 1 (2 OF 3)
160	GRASSY SWALE 1 (3 OF 3)
161	GRASSY SWALE 2
162	GRASSY SWALE 3

LOCATION MAP

SCALE: NOT TO SCALE

A SUBDIVISION OF 200.024 ACRES BEING THE RANCH AT CALITERRA, OUT OF THE BENJAMIN F. HANNA SURVEY NUMBER 28, ABSTRACT NUMBER 222, HAYS COUNTY, TEXAS

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN ACCEPTING THESE PLANS, THE CITY OF DRIPPING SPRINGS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

NOTES:

1. A PORTION OF THE SUBJECT PLAT PROPERTY IS LOCATED WITHIN A DESIGNATED 100 YEAR FLOOD PLAIN AS DELINEATED ON F.I.R.M. PANEL NO 48209C0105F AND 48209C0115F, DATED SEPTEMBER 2, 2005, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
2. FIRE HYDRANTS APPROVED AND INSTALLED AS PART OF THE PROPOSED PROJECT ARE PART OF A FIRE PROTECTION SYSTEM.
3. MINIMUM REQUIRED FIRE FLOW SHALL MEET OR EXCEED THE REQUIREMENTS OF APPENDIX B OF THE 2015 INTERNATIONAL FIRE CODE. MINIMUM FIRE FLOW SHALL NOT BE LESS THAN 1000 GALLONS PER MINUTE FOR THIS PROJECT.
4. THIS PROJECT IS LOCATED IN THE EDWARDS AQUIFER CONTRIBUTING ZONE.
5. THIS PROJECT LIES IN ONION CREEK WATERSHED.
6. WASTEWATER IS PROVIDED BY DRIPPING SPRINGS. WATER IS PROVIDED BY DRIPPING SPRINGS WATER SUPPLY CORP.
7. THE STORMWATER UTILITIES IN THIS SUBDIVISION WILL BE MAINTAINED BY THE HAYS COUNTY DEVELOPMENT DISTRICT #1.
8. THIS DEVELOPMENT IS SUBJECT TO THE DEVELOPMENT AND CONVEYANCE AGREEMENT DATED OCTOBER 19, 2017 BETWEEN THE CITY OF DRIPPING SPRINGS AND DEVELOPMENT SOLUTIONS CARTER, LLC RECORDED IN INSTRUMENT #17037153, PUBLIC RECORDS OF HAYS COUNTY, TEXAS.
9. A WATER QUALITY BMP MAINTENANCE PLAN HAS BEEN PREPARED FOR THIS DEVELOPMENT AND IS ON FILE AT CITY HALL IN SITE DEVELOPMENT CASE # SUB2023-0003.
10. A STORMWATER CONTROL MEASURES MAINTENANCE PLAN HAS BEEN PREPARED FOR THIS DEVELOPMENT AND IS RECORDED AS DOCUMENT # _____ IN THE PUBLIC RECORDS OF HAYS COUNTY, TEXAS.

OWNER/DEVELOPER: CF CSLK CARTER, LLC
C/O GREGORY L. RICH, MANAGER
12222 MERIT DRIVE, SUITE 1050
DALLAS, TX. 75251
PHONE: 972-960-2777

ENGINEER: CARLSON, BRIGANCE & DOERING, INC.
C/O QUYNN DUSEK, P.E.
5501 WEST WILLIAM CANNON DRIVE
AUSTIN, TEXAS 78749
PHONE: (512) 280-5160
FAX: (512) 280-5165

NO.	DESCRIPTION	REVISE (R) ADD (A) VOID (V) SHEET NO's	TOTAL # SHEETS IN PLAN SET	NET CHANGE IMP. COVER (SQ. FT.)	TOTAL SITE IMP. COVER (SQ. FT.)/ (%)	CITY OF DRIPPING SPRINGS APPROVAL/DATE	APPROVED BY	DATE IMAGED

SUBMITTED BY:

Quynn Dusek 6-13-2023

CARLSON, BRIGANCE AND DOERING, INC. DATE

APPROVED BY:

HAYS COUNTY DIRECTOR OF TRANSPORTATION DATE

HAYS COUNTY DEVELOPMENT DISTRICT NO. 1 DATE

HAYS COUNTY ESD #6 DATE

CHAD GILPIN, P.E. – CITY ENGINEER DATE
CITY OF DRIPPING SPRINGS

MICHELLE FISCHER – CITY ADMINISTRATOR DATE
CITY OF DRIPPING SPRINGS

AARON REED – CITY PUBLIC WORKS DIRECTOR DATE

FOR DRIPPING SPRINGS WATER SUPPLY CORPORATION DATE

CITY OF DRIPPING SPRINGS WASTEWATER ENGINEER DATE

CITY OF DRIPPING SPRINGS DEVELOPMENT PERMIT # _____

BENCHMARK NOTES:

BM#1 IS A CAPPED 1/2" IRON ROD, ON THE SOUTH SIDE OF CALITERRA PARKWAY, APPROXIMATELY 136' NORTH FROM THE EASTERNMOST CORNER OF LOT 16, BLOCK "K" OF CALITERRA PHASE TWO, SECTION EIGHT, INSTRUMENT # 18010022.
ELEVATION = 1,154.00'

BM#2 IS A "X" ON TOP OF RIBBON CURB, ON THE NORTH SIDE OF CALITERRA PARKWAY, APPROXIMATELY 139' SOUTHEAST FROM THE SOUTHERNMOST CORNER OF LOT 35, BLOCK "E", AMENDED PLAT OF CALITERRA PHASE ONE, SECTION FOUR, VOL. 19, PG. 138.
ELEVATION = 1,066.07'

DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office
5501 West William Cannon Dr.
Austin, Texas 78749
Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdeng.com

SHEET NAME: COVER SHEET

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC. ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 1 OF 162

FILE PATH: I:\ACAD\5079\dwg\Construction Plans\5079-COVER SHEET & GENERAL NOTES.dwg - Jun 14, 2023 - 9:04am

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CONTRIBUTING ZONE PLAN
GENERAL CONSTRUCTION NOTES

EDWARDS AQUIFER PROTECTION PROGRAM CONSTRUCTION NOTES - LEGAL DISCLAIMER

THE FOLLOWING/LISTED "CONSTRUCTION NOTES" ARE INTENDED TO BE ADVISORY IN NATURE ONLY AND DO NOT CONSTITUTE AN APPROVAL OR CONDITIONAL APPROVAL BY THE EXECUTIVE DIRECTOR (ED), NOR DO THEY CONSTITUTE A COMPREHENSIVE LISTING OF RULES OR CONDITIONS TO BE FOLLOWED DURING CONSTRUCTION. FURTHER ACTIONS MAY BE REQUIRED TO ACHIEVE COMPLIANCE WITH TCEQ REGULATIONS FOUND IN TITLE 30, TEXAS ADMINISTRATIVE CODE (TAC), CHAPTERS 213 AND 217, AS WELL AS LOCAL ORDINANCES AND REGULATIONS PROVIDING FOR THE PROTECTION OF WATER QUALITY. ADDITIONALLY, NOTHING CONTAINED IN THE FOLLOWING/LISTED "CONSTRUCTION NOTES" RESTRICTS THE POWERS OF THE ED, THE COMMISSION OR ANY OTHER GOVERNMENTAL ENTITY TO PREVENT, CORRECT, OR CURTAIL ACTIVITIES THAT RESULT OR MAY RESULT IN POLLUTION OF THE EDWARDS AQUIFER OR HYDROLOGICALLY CONNECTED SURFACE WATERS. THE HOLDER OF ANY EDWARDS AQUIFER PROTECTION PLAN CONTAINING "CONSTRUCTION NOTES" IS STILL RESPONSIBLE FOR COMPLIANCE WITH TITLE 30, TAC, CHAPTERS 213 OR ANY OTHER APPLICABLE TCEQ REGULATION, AS WELL AS ALL CONDITIONS OF AN EDWARDS AQUIFER PROTECTION PLAN THROUGH ALL PHASES OF PLAN IMPLEMENTATION. FAILURE TO COMPLY WITH ANY CONDITION OF THE ED'S APPROVAL, WHETHER OR NOT IN CONTRADICTION OF ANY "CONSTRUCTION NOTES," IS A VIOLATION OF TCEQ REGULATIONS AND ANY VIOLATION IS SUBJECT TO ADMINISTRATIVE RULES, ORDERS, AND PENALTIES AS PROVIDED UNDER TITLE 30, TAC § 213.10 (RELATING TO ENFORCEMENT). SUCH VIOLATIONS MAY ALSO BE SUBJECT TO CIVIL PENALTIES AND INJUNCTION. THE FOLLOWING/LISTED "CONSTRUCTION NOTES" IN NO WAY REPRESENT AN APPROVED EXCEPTION BY THE ED TO ANY PART OF TITLE 30 TAC, CHAPTERS 213 AND 217, OR ANY OTHER TCEQ APPLICABLE REGULATION

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY GROUND DISTURBANCE OR CONSTRUCTION ACTIVITIES. THIS NOTICE MUST INCLUDE:
   - THE NAME OF THE APPROVED PROJECT;
   - THE ACTIVITY START DATE; AND
   - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT SHOULD BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED CONTRIBUTING ZONE PLAN (CZP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTOR(S) SHOULD KEEP COPIES OF THE APPROVED PLAN AND APPROVAL LETTER ONSITE.

3. NO HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.

4. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.

5. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.

6. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.

7. ALL EXCAVATED MATERIAL THAT WILL BE STORED ON-SITE MUST HAVE PROPER E&S CONTROLS.

8. IF PORTIONS OF THE SITE WILL HAVE A CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL TCEQ-0592A (REV. JULY 15, 2015) PAGE 2 OF 2 STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.

9. THE FOLLOWING RECORDS SHOULD BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
   - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
   - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
   - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

11. THE HOLDER OF ANY APPROVED CZP MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY BEST MANAGEMENT PRACTICES (BMPS) OR STRUCTURE(S), INCLUDING BUT NOT LIMITED TO TEMPORARY OR PERMANENT PONDS, DAMS, BERMS, SILT FENCES, AND DIVERSIONARY STRUCTURES;

B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED;

C. ANY CHANGE THAT WOULD SIGNIFICANTLY IMPACT THE ABILITY TO PREVENT POLLUTION OF THE EDWARDS AQUIFER; OR

D. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE APPROVED CONTRIBUTING ZONE PLAN.

AUSTIN REGIONAL OFFICE	SAN ANTONIO REGIONAL OFFICE
12100 PARK 35 CIRCLE, BUILDING A	14250 JUDSON ROAD
AUSTIN, TEXAS 78753-1808	SAN ANTONIO, TEXAS 78233-4480
PHONE (512) 339-2929	PHONE (210) 490-3096
FAX (512) 339-3795	FAX (210) 545-4329

HAYS COUNTY ROAD DEPARTMENT GENERAL CONSTRUCTION NOTES:

1. SEVENTY-TWO (72) HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION, THE DEVELOPER SHALL ARRANGE A PRE-CONSTRUCTION CONFERENCE WITH ALL PERTINENT PARTIES.

2. ALL ROADWAY AND DRAINAGE IMPROVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH HAYS COUNTY SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS FROM HAYS COUNTY ROAD AND BRIDGE DEPARTMENT PRIOR TO BEGINNING ANY ON-SITE CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING THE NECESSARY INSPECTIONS FROM THE HAYS COUNTY ROAD AND BRIDGE DEPARTMENT. ALL REPAIRS TO IMPROVEMENTS CAUSED BY CONTRACTOR'S FAILURE TO INSTALL IMPROVEMENTS IN ACCORDANCE WITH HAYS COUNTY SPECIFICATIONS AND THESE CONSTRUCTION PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. HAYS COUNTY TRANSPORTATION DEPARTMENT'S ACCEPTANCE OF THE IMPROVEMENTS ARE CONTINGENT ON REPAIRS BEING MADE TO HAYS COUNTY'S SATISFACTION. DELAYS CAUSED BY REPAIRS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

3. A MINIMUM OF TWO (2) BENCHMARKS SHALL BE SHOWN ON THE CONSTRUCTION PLANS.

4. ALL BEDDING MATERIALS USED WITHIN THE ROW SHALL COMPLY WITH COA ITEM 510.

5. ALL CONCRETE PLACED WITHIN THE ROW SHALL BE A MINIMUM OF CLASS A. THE USE OF REBAR CHAIRS AND TESTS CYLINDERS WILL BE REQUIRED ON PCC VALLEY GUTTER PLACEMENTS.

6. THE PROPOSED FULLY DEVELOPED STORMWATER RUNOFF RATE CANNOT EXCEED EXISTING CONDITIONS RUNOFF RATE.

7. DEWATERING OPERATIONS MST USE SWPPP-SPECIFIED METHODS ONLY. IF SUCH METHODS ARE ONLY GENERAL OR NOT APPLICABLE, PUMP FROM THE TOP OF THE POOL (RATHER THAN THE BOTTOM) AND DISCHARGE TO A VEGETATED, UPLAND AREA (AWAY FROM WATERBODIES OR DRAINAGES) OR USE ANOTHER TYPE OF FILTRATION PRIOR TO DISCHARGE. REFER TO THE EPA 2017 GENERAL CONSTRUCTION PERMIT, SECTION 2.4, AS APPLICABLE.

8. THE CONTRACTOR SHALL SUPPLY QUALIFIED PERSONNEL TO PERFORM SWPPP INSPECTIONS ON PROJECT ≥ 1 ACRE. QUALIFIED PERSONNEL SHALL HAVE CISEC, CESSWI, OR EQUIVALENT CERTIFICATION APPROVED BE THE MS4.

9. CONTRACTOR SHALL ENSURE THAT MUD AND DEBRIS TRACKED ONTO PUBLICLY MAINTAINED ROADWAYS FROM VEHICLES LEAVING THE CONSTRUCTION SITE WILL BE CLEANED UP DAILY.

10. NO EXPLOSIVES SHALL BE USED FOR THIS PROJECT WITHOUT TCEQ APPROVAL.

11. ALL HOLES, TRENCHES AND OTHER HAZARDOUS AREAS SHALL BE ADEQUATELY PROTECTED BY BARRICADES, FENCING, LIGHTS AND/OR OTHER PROTECTIVE DEVICES IN COMPLIANCE WITH COA 509S AND OSHA REGULATIONS AT ALL TIMES.

12. THE CONTRACTOR SHALL SUBMIT A TRENCH SAFETY PLAN PREPARED AND SEALED BY AN ENGINEER LICENSED BY THE STATE OF TEXAS PRIOR TO THE START OF THE PROJECT. THE CONTRACTOR SHALL ASSIGN A COMPETENT PERSON THAT HAS BEEN PROPERLY TRAINED AND IS QUALIFIED TO MAKE INSPECTIONS AND SUPERVISE THE INSTALLATION, MAINTENANCE, AND REMOVAL OF THE TRENCH SAFETY OR EXCAVATION SAFETY SYSTEM.

13. HAYS COUNTY IS NOT RESPONSIBLE FOR SIDEWALK MAINTENANCE. A FULLY EXECUTED LICENSE AGREEMENT MUST BE IN-PLACE PRIOR TO CONSTRUCTION OF SIDEWALKS WITHIN HAYS COUNTY ROW.

14. CONTRACTOR SHALL COMPLY WITH CONSTRUCTION SEQUENCING WHICH MAY BE SPECIFIED SOMEWHERE IN THE CONSTRUCTION PLANS.

15. PERMIT IS REQUIRED FOR CONSTRUCTION IN "RIGHT OF WAY": ORDINANCE 7.10. NO DRIVEWAY, UTILITY CONSTRUCTION, MAILBOXES, LANDSCAPING OR ANY OTHER ENCROACHMENT INTO RIGHT-OF-WAY OR EASEMENT SHALL BE ALLOWED WITHOUT FIRST OBTAINING A PERMIT FROM THE HAYS COUNTY ROAD AND BRIDGE DEPARTMENT.

16. PRIOR TO THE INSTALLATION OF ANY ROAD BUILDING MATERIAL THE SUBGRADE SHALL BE INSPECTED BY HAYS COUNTY. PRIOR TO PAVING, BASE MATERIAL SHALL BE INSPECTED BY HAYS COUNTY. THE OWNER OR HIS AGENT SHALL NOTIFY HAYS COUNTY FORTY-EIGHT (48) HOURS PRIOR TO THE TIME WHEN THE INSPECTION IS NEEDED: ORDINANCE 1.05; 2.06.

17. ALL OUTFALLS CONSTRUCTED WITHIN HAYS COUNTY MUST BE SUBMITTED TO HAYS COUNTY WITH GPS COORDINATED AT THE END OF EACH PROJECT. COORDINATED WILL BE SUBMITTED ON THE NAD 1983 STATED PLANE SOUTH CENTRAL FIPS 4204 FEET COORDINATE SYSTEM. ALL COORDINATED WILL BE SUBMITTED IN GRID UNITS. THE REQUIRED FILE TYPE FOR COORDINATE DATA SUBMISSIONS IS *TXT FORMAT.

18. AT THE TIME A FINAL INSPECTION AND RELEASE OF PERFORMANCE SECURITY IS REQUESTED; THE DESIGN ENGINEER SHALL PROVIDE A COMPLETE SET OF "AS-BUILT" RECORD DRAWINGS IN PDF FORMAT (300DPI) ON A VIRUS FREE DISK AND SHALL CERTIFY THAT ALL ROAD AND DRAINAGE CONSTRUCTION HAS BEEN COMPLETED IN SUBSTANTIAL ACCORDANCE WITH PREVIOUSLY APPROVED PLANS AND SPECIFICATIONS, EXCEPT AS NOTED. NO PERFORMANCE SECURITY WILL BE RELEASED WITHOUT THESE EXHIBITS.

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HAYS COUNTY GENERAL NOTES:

1. FOR SLOPES OR TRENCHES GREATER THAN 5 FEET IN DEPTH, ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH OHSA STANDARDS.
2. ALL BEDDING MATERIAL USED WITHIN THE ROW MUST COMPLY WITH COA 510
3. HMAC CORE PATCHES SHALL CONSIST OF AN APPROVED POLYMER COLD MIX
4. SUBGRADE AND BASE MOISTURE DENSITY REQUIREMENTS SHALL COMPLY WITH HAYS COUNTY SPECIFICATIONS, GEOTECH REPORT, OR WHICHEVER IS MORE STRINGENT.

SPECIAL NOTES

1. THE SUBGRADE WAS TESTED BY MLA LABS IN MAY 2023. THE STREET SECTIONS WERE DESIGNED ACCORDINGLY. THE SUBGRADE MATERIAL AND THE STREET SECTIONS ARE DESIGNED ACCORDING TO HAYS COUNTY DESIGN CRITERIA. CARLSON BRIGANCE AND DOERING ENGINEERING & ASSOCIATES, INC. IS NOT RESPONSIBLE FOR THE BASE AND PAVEMENT DESIGN AS RECOMMENDED BY THE SOILS ENGINEER IN HIS/HER GEOTECHNICAL REPORT.

2. FOR ANY QUESTIONS CONCERNING THE GEOTECHNICAL REPORT OR PAVEMENT THICKNESS DESIGN CONTACT TIMOTHY WESTON OF MLA LABS, INC. AT 512-873-8899.

STREET NAME	HMAC TYPE C THICKNESS (INCHES)	CRUSHED LIMESTONE BASE (INCHES)	LOW PLASTICITY SUB-BASE (INCHES)	GEOGRID	STREET CLASSIFICATION
BIRDHOUSE PASS	1.5	9	*18	YES	LOCAL
BROOKHILL DRIVE	1.5	9	*18	YES	LOCAL
DREAM CATCHER LOOP	2.0	14	*18	YES	MINOR ARTERIAL
FLY CATCHER COVE	1.5	9	*18	YES	LOCAL
GARDEN SPRING LOOP	1.5	9	*18	YES	LOCAL
HAWKTREE ROAD	1.5	9	*18	YES	LOCAL
HC CARTER WAY	2.0	14	*18	YES	MINOR ARTERIAL
HICKORY GROVE DRIVE	2.0	14	*18	YES	MINOR ARTERIAL
PICKENS DRIVE	1.5	9	*18	YES	LOCAL
ROBIN'S EGG LOOP	1.5	9	*18	YES	LOCAL
WHISKEY BARREL DRIVE	2.0	14	*18	YES	MINOR ARTERIAL

NOTES:
- LATEST GEOTECHNICAL REPORT SUPERCEDES CONSTRUCTION PLANS
- SEE GEOTECHNICAL REPORT FOR ALTERNATIVE SECTIONS WHERE SUBGRADE MATERIAL IS MORE THAN 2 FEET OF EXPANSIVE SUBGRADE PI > 35
- COMPACTION OF CUT AREAS, ON-GRADE AREAS, AND FILL SECTIONS SHOULD BE TO 95 PERCENT OF TXDOT TEX-114-E.
- FILL SECTIONS MAY BE COMPOSED OF ON-SITE MATERIAL EXCLUDING TOPSOIL, VEGETATION, AND ORGANICS. FILLS SHOULD BE COMPACTED IN LIFTS NOT EXCEEDING 8 INCHES AFTER COMPACTION AND MEET HAYS COUNTY CURRENT "SPECIFICATIONS FOR ROADWAY DESIGN, PAVING AND DRAINAGE IMPROVEMENTS"

GENERAL NOTES

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

1. THESE CONSTRUCTION PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE, AND FEDERAL REQUIREMENTS AND CODES.
2. THIS PROJECT IS SUBJECT TO HAYS COUNTY DEVELOPMENT DISTRICT NO. 1, DRIPPING SPRINGS WATER SUPPLY CORPORATION, AND CITY OF DRIPPING SPRINGS STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.
4. WASTEWATER MAINS AND SERVICE LINES SHALL BE SDR 26 PVC.
5. WASTEWATER MAINS SHALL BE INSTALLED WITHOUT HORIZONTAL OR VERTICAL BENDS.
6. MAXIMUM DISTANCE BETWEEN WASTEWATER MANHOLES IS 500 FEET.
7. WASTEWATER MAINS SHALL BE LOW PRESSURE AIR TESTED AND MANDREL TESTED BY THE CONTRACTOR ACCORDING TO CITY OF DRIPPING SPRINGS AND TCEQ REQUIREMENTS.
8. WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY THE CONTRACTOR ACCORDING TO CITY OF DRIPPING SPRINGS AND TCEQ REQUIREMENTS.
9. WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONTRACTOR AND SUBMITTED TO THE CITY OF DRIPPING SPRINGS ENGINEER ON DVD FORMAT PRIOR TO PAVING THE STREETS.
10. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.
11. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 PVC FOR ALL OTHERS.
12. PUBLIC WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPE AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 2 HOURS.
13. ALL BENDS AND CHANGES IN DIRECTIONS ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
14. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.
15. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
16. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ, THE CITY, AND DSWSC.
17. FLEXIBLE BASE MATERIAL FOR PUBLIC STREETS SHALL BE TXDOT TYPE A GRADE 1.
18. ALL SIDEWALK RAMPS ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE AND ARE MAINTAINED BY THE HAYS COUNTY DEVELOPMENT DISTRICT #1.
19. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED PRIOR TO ACCEPTANCE OF THE PUBLIC IMPROVEMENTS. THE BOND WILL BE PROVIDED AS FOLLOWS:
   - HAYS COUNTY DEVELOPMENT DISTRICT NO. 1 FOR DISTRICT IMPROVEMENTS – 2 YEARS, 100% OF RELATED IMPROVEMENTS
   - CITY OF DRIPPING SPRINGS FOR CITY IMPROVEMENTS – 2 YEARS, 10% OF RELATED IMPROVEMENTS
   - DRIPPING SPRINGS WATER SUPPLY CORPORATION FOR DSWSC IMPROVEMENTS – 2 YEARS, 25% OF RELATED IMPROVEMENTS
   - HAYS COUNTY FOR COUNTY IMPROVEMENTS – 2 YEARS, 10% OF RELATED IMPROVEMENTS
20. RECORD DRAWINGS OF THE PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY, THE DISTRICT, AND DSWSC BY THE DESIGN ENGINEER PRIOR TO ACCEPTANCE OF THE PROJECT. THESE DRAWINGS SHALL BE ON MYLAR OR ON TIFF OR PDF DISK (300 DPI). IF A DISK IS SUBMITTED, A BOND SET SHALL BE INCLUDED WITH THE DISK.
21. A STORMWATER CONTROL MEASURES MAINTENANCE PLAN HAS BEEN PREPARED FOR THIS DEELOPMENT AND IS RECORDED AS DOCUMENT #_______, IN THE PUBLIC RECORDS OF HAYS COUNTY, TEXAS. THE DOCUMENT # WILL HAVE TO BE IDENTIFIED ON THE AS-BUILT RECORD DRAWINGS.

DISINFECTION OF POTABLE WATER LINES

A. PREVENTING CONTAMINATION
THE CONTRACTOR SHALL PROTECT ALL PIPING MATERIALS FROM CONTAMINATION DURING STORAGE, HANDLING AND INSTALLATION. PRIOR TO DISINFECTION, THE PIPELINE INTERIOR SHALL BE CLEAN, DRY AND UNOBSTRUCTED. ALL OPENINGS IN THE PIPELINE SHALL BE CLOSED WITH WATERTIGHT PLUGS WHEN PIPE LAYING IS STOPPED AT THE CLOSE OF THE DAY'S WORK.

B. CLEANING
PRIOR TO DISINFECTION THE CONTRACTOR SHALL CLEAN THE PIPELINE TO REMOVE FOREIGN MATTER. FOR PIPELINES 16" IN DIAMETER OR SMALLER, CLEANING SHALL CONSIST OF FLUSHING THE PIPELINE. FOR PIPELINES GREATER THAN 16" IN DIAMETER, CLEANING SHALL BE PERFORMED BY OPERATING HYDRANTS AND BLOW-OFFS LOCATED AT LOW POINTS IN THE PIPELINE, OR BY MECHANICAL MEANS (SWEEPING OR PIGGING). WATER FOR THE WORK SHALL BE METERED AND FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH SECTION 01500 OF THE STANDARD CONTRACT DOCUMENTS.

C. PROCEDURE AND DOSAGE
THE CONTRACTOR, AT ITS EXPENSE, WILL SUPPLY THE TEST GAUGES AND THE SODIUM HYPOCHLORITE CONFORMING TO ANSI/AWWA B300, WHICH CONTAINS APPROXIMATELY 5 PERCENT TO FIFTEEN PERCENT AVAILABLE CHLORINE, AND WILL SUBMIT FOR APPROVAL A WRITTEN PLAN FOR THE DISINFECTION PROCESS. CALCIUM HYPOCHLORITE CONFORMING TO ANSI/AWWA B300, WHICH CONTAINS APPROXIMATELY 65 PERCENT AVAILABLE CHLORINE BY WEIGHT, MAY BE USED IN GRANULAR FORM OR IN 5 G TABLETS FOR 16" DIAMETER OR SMALLER LINES, IF IT IS INCLUDED AS PART OF THE WRITTEN PLAN OF DISINFECTION THAT IS APPROVED BY THE MUD AND THE ENGINEER. THE CONTRACTOR, AT ITS EXPENSE, SHALL PROVIDE ALL OTHER EQUIPMENT, SUPPLIES AND THE NECESSARY LABOR TO PERFORM THE DISINFECTION UNDER THE GENERAL SUPERVISION OF THE MUD AND THE ENGINEER.

ONE CONNECTION TO THE EXISTING SYSTEM WILL BE ALLOWED WITH A VALVE ARRANGED TO PREVENT THE STRONG DISINFECTING DOSAGE FROM FLOWING BACK INTO THE EXISTING WATER SUPPLY PIPING. THE VALVE SHALL BE KEPT CLOSED AND LOCKED IN A VALVE BOX WITH THE LID PAINTED RED. NO OTHER CONNECTION SHALL BE MADE UNTIL THE DISINFECTION OF THE NEW LINE IS COMPLETE AND THE WATER SAMPLES HAVE MET THE ESTABLISHED CRITERIA. THE VALVE SHALL REMAIN CLOSED AT ALL TIMES EXCEPT WHEN FILLING OR FLUSHING THE LINE AND MUST BE STAFFED DURING THESE OPERATIONS. BACKFLOW PREVENTION IN THE FORM OF A REDUCED PRESSURE BACKFLOW ASSEMBLY MUST BE PROVIDED IF THE VALVE IS LEFT UNATTENDED. THE NEW PIPELINE SHALL BE FILLED COMPLETELY WITH DISINFECTING SOLUTION BY FEEDING THE CONCENTRATED CHLORINE AND APPROVED WATER FROM THE EXISTING SYSTEM UNIFORMLY INTO THE NEW PIPING IN SUCH PROPORTIONS THAT EVERY PART OF THE LINE HAS A MINIMUM CONCENTRATION OF 50 MG/LITER AVAILABLE CHLORINE.

THE DISINFECTING SOLUTION SHALL BE RETAINED IN THE PIPING FOR AT LEAST 24 HOURS AND ALL VALVES, HYDRANTS, SERVICES, STUBS, ETC. SHALL BE OPERATED SO AS TO DISINFECT ALL THEIR PARTS. AFTER THIS RETENTION PERIOD, THE WATER SHALL CONTAIN NO LESS THAN 25 MG/LITER CHLORINE THROUGHOUT THE TREATED SECTION OF THE PIPELINE.

FOR PIPELINES LARGER THAN 16" IN DIAMETER, THE CONTRACTOR MAY USE THE AWWA C-651 "SLUG METHOD" FOR DISINFECTING THE PIPELINE. CHLORINE SHALL BE FED AT A CONSTANT RATE AND AT A SUFFICIENT CONCENTRATION AT ONE END OF THE PIPELINE TO DEVELOP A SLUG OF CHLORINATED WATER HAVING NOT LESS THAN 100 MG/LITER OF FREE CHLORINE. THE CONTRACTOR SHALL MOVE THE SLUG THROUGH THE MAIN SO THAT ALL INTERIOR SURFACES ARE EXPOSED TO THE SLUG FOR AT LEAST THREE (3) HOURS. THE CHLORINE CONCENTRATION IN THE SLUG SHALL BE MEASURED AS IT MOVES THROUGH THE PIPELINE. IF THE CHLORINE CONCENTRATION DROPS BELOW 50 MG/LITER, THE CONTRACTOR SHALL STOP THE SLUG AND FEED ADDITIONAL CHLORINE TO THE HEAD OF THE SLUG TO RESTORE THE CHLORINE CONCENTRATION TO AT LEAST 100 MG/LITER BEFORE PROCEEDING. AS THE SLUG FLOWS PAST FITTINGS AND VALVES, RELATED VALVES AND HYDRANTS SHALL BE OPERATED SO AS TO DISINFECT APPURTENANCES AND PIPE BRANCHES.

UNLESS OTHERWISE INDICATED, ALL QUANTITIES SPECIFIED HEREIN REFER TO MEASUREMENTS REQUIRED BY THE TESTING PROCEDURES INCLUDED IN THE CURRENT EDITION OF "STANDARD METHODS". THE CHLORINE CONCENTRATION AT EACH STEP IN THE DISINFECTION PROCEDURE SHALL BE VERIFIED BY CHLORINE RESIDUAL DETERMINATIONS.

DISINFECTION OF POTABLE WATER LINES CONT'D

D. FINAL FLUSHING
THE HEAVILY CHLORINATED WATER SHALL THEN BE CAREFULLY FLUSHED FROM THE POTABLE WATER LINE UNTIL THE CHLORINE CONCENTRATION IS NO HIGHER THAN THE RESIDUAL GENERALLY PREVAILING IN THE EXISTING DISTRIBUTION SYSTEM. PROPER PLANNING AND APPROPRIATE PREPARATIONS IN HANDLING, DILUTING, IF NECESSARY, AND DISPOSING OF THIS STRONG CHLORINE SOLUTION IS NECESSARY TO INSURE THAT THERE IS NO INJURY OR DAMAGE TO THE PUBLIC, THE WATER SYSTEM OR THE ENVIRONMENT. THE PLANS AND PREPARATIONS OF THE CONTRACTOR MUST BE APPROVED BY THE CITY BEFORE FLUSHING OF THE LINE MAY BEGIN. ADDITIONALLY THE FLUSHING MUST BE WITNESSED BY AN AUTHORIZED REPRESENTATIVE OF THE MUD OR THE ENGINEER.

APPROVAL FOR DISCHARGE OF THE DILUTED CHLORINE WATER OR HEAVILY CHLORINATED WATER INTO THE WASTEWATER SYSTEM MUST BE OBTAINED FROM THE AUSTIN WATER UTILITY. THE LINE FLUSHING OPERATIONS SHALL BE REGULATED BY THE CONTRACTOR SO AS NOT TO OVERLOAD THE WASTEWATER SYSTEM OR CAUSE DAMAGE TO THE ODOR FEED SYSTEMS AT THE LIFT STATIONS. THE MUD OR THE ENGINEER SHALL DESIGNATE ITS OWN REPRESENTATIVE TO OVERSEE THE WORK.

DAILY NOTICE OF LINE DISCHARGING MUST BE REPORTED TO THE AUSTIN WATER UTILITY DISPATCH OFFICE.

E. AFTER FINAL FLUSHING OF THE STRONG DISINFECTING SOLUTION, TWO (2) SETS OF WATER SAMPLES FROM THE LINE, THAT ARE TAKEN AT LEAST TWENTY-FOUR (24) HOURS APART, WILL BE TESTED FOR BACTERIOLOGICAL QUALITY BY THE CITY AND MUST BE FOUND FREE OF COLIFORM ORGANISMS BEFORE THE PIPELINE MAY BE PLACED IN SERVICE. EACH SET SHALL CONSIST OF ONE (1) SAMPLE THAT IS DRAWN FROM THE END OF THE MAIN AND ADDITIONAL SAMPLES THAT ARE COLLECTED AT INTERVALS OF NOT MORE THAN 1000 FEET ALONG THE PIPELINE. ALL STUBS SHALL BE TESTED BEFORE CONNECTIONS ARE MADE TO EXISTING SYSTEMS.

THE CONTRACTOR, AT ITS EXPENSE, SHALL INSTALL SUFFICIENT SAMPLING TAPS AT PROPER LOCATIONS ALONG THE PIPELINE. EACH SAMPLING TAP SHALL CONSIST OF A STANDARD CORPORATION COCK INSTALLED IN THE LINE AND EXTENDED WITH A COPPER TUBING GOOSENECK ASSEMBLY. AFTER SAMPLES HAVE BEEN COLLECTED, THE GOOSENECK ASSEMBLY MAY BE REMOVED AND RETAINED FOR FUTURE USE.

SAMPLES FOR BACTERIOLOGICAL ANALYSIS WILL ONLY BE COLLECTED FROM SUITABLE SAMPLING TAPS IN STERILE BOTTLES TREATED WITH SODIUM THIOSULFATE. SAMPLES SHALL NOT BE DRAWN FROM HOSES OR UNREGULATED SOURCES. THE CITY, AT ITS EXPENSE, WILL FURNISH THE STERILE SAMPLE BOTTLES AND MAY, AT ITS DISCRETION, COLLECT THE TEST SAMPLES WITH CITY PERSONNEL.

IF THE INITIAL DISINFECTION FAILS TO PRODUCE ACCEPTABLE SAMPLE TEST RESULTS, THE DISINFECTION PROCEDURE SHALL BE REPEATED AT THE CONTRACTOR'S EXPENSE. BEFORE THE PIPING MAY BE PLACED IN SERVICE, TWO (2) CONSECUTIVE SETS OF ACCEPTABLE TEST RESULTS MUST BE OBTAINED.

AN ACCEPTABLE TEST SAMPLE IS ONE IN WHICH: (1) THE CHLORINE LEVEL IS SIMILAR TO THE LEVEL OF THE EXISTING DISTRIBUTION SYSTEM; (2) THERE IS NO FREE CHLORINE AND (3) TOTAL COLIFORM ORGANISMS ARE ABSENT. AN INVALID SAMPLE IS ONE, WHICH HAS EXCESSIVE FREE CHLORINE, SILT OR NON-COLIFORM GROWTH AS DEFINED IN THE CURRENT ISSUE OF THE "STANDARDS METHODS." IF UNACCEPTABLE SAMPLE RESULTS ARE OBTAINED FOR ANY PIPE, THE CONTRACTOR MAY, WITH THE CONCURRENCE OF THE INSPECTOR, FOR ONE TIME ONLY FLUSH THE LINES AND THEN COLLECT A SECOND SERIES OF TEST SAMPLES FOR TESTING BY THE CITY. AFTER THIS FLUSHING SEQUENCE IS COMPLETED, ANY PIPE WITH ONE OR MORE FAILED SAMPLES MUST BE DISINFECTED AGAIN IN ACCORDANCE WITH THE APPROVED DISINFECTION PROCEDURE FOLLOWED BY APPROPRIATE SAMPLING AND TESTING OF THE WATER.

DRIPPING SPRINGS WSC WATERLINE CONSTRUCTION GUIDELINES

10/18/18

1. WATERLINES SHALL BE DESIGNED TO BE INSTALLED BETWEEN 36 INCHES MINIMUM BURY DEPTH AND 60 INCHES MAXIMUM, ANY WATERLINE DESIGNED TO BE BURIED DEEPER THAN 5 FEET MUST HAVE APPROVAL FROM DRIPPING SPRINGS WSC STAFF AND ITS ENGINEERS.
2. ALL WATERLINES SHOULD CROSS ABOVE STORM SEWER, ANY WATERLINE DESIGNED TO CROSS UNDER STORM SEWER MUST HAVE APPROVAL FROM DRIPPING SPRINGS WSC STAFF AND ITS ENGINEERS.
3. ALL GAS, ELECTRIC, TELECOMMUNICATION AND WASTEWATER LINES MUST CROSS BELOW WATER LINES, ANY LINE THAT CANNOT CROSS UNDER WILL REQUIRE APPROVAL FROM DRIPPING SPRINGS WSC STAFF AND ENGINEERS
4. WATERLINES SHALL BE CONSTRUCTED SO THE DRIPPING SPRINGS WSC CAN PERFORM MAINTENANCE ON THEM WHEN NECESSARY THIS INCLUDES.
   A. NO WALLS CONSTRUCTED OVER OR WITHIN SIX FEET OF A WATERLINE WITHOUT PRIOR APPROVAL FROM THE DRIPPING SPRINGS WSC STAFF OR ITS ENGINEERS.
   B. NO SIGNS CONSTRUCTED OVER OR WITHIN SIX FEET OF A WATERLINE WITHOUT PRIOR APPROVAL FROM DRIPPING SPRINGS WSC STAFF OR ITS ENGINEERS.
   C. NOTHING CAN BE BUILT OR PLACED WITHIN THE DRIPPING SPRINGS WSC EASEMENTS THAT CANNOT BE EASILY MOVED BY WSC STAFF TO PERFORM MAINTENANCE
   D. ALL WATERLINES MUST BE CONSTRUCTED OUT OF THE FLOW LINE OF OTHER UTILITY TRENCHES, UNLESS CROSSING AT LEAST A 45 DEGREES ANGLE.
   E. NO WATERLINE WILL BE CONSTRUCTED IN THE FLOWLINE OF A DRAINAGE DITCH.
5. ALL WATER DISTRIBUTION LINES SHALL BE C-900 DR-18 OR DR 14 PVC PIPE MANUFACTURED IN THE UNITED STATES
6. ALL WATER SYSTEM MATERIALS SHALL FULLY COMPLY WITH TCEQ AND AWWA STANDARDS. ALL CONSTRUCTION SHALL FULLY COMPLY WITH THE DRIPPING SPRINGS WSC CURRENT CONSTRUCTION STANDARDS.
7. ALL SERVICE LINES SHALL BE SDR-9 P.E. PIPE 250 PSI.
8. ALL FITTINGS SHALL BE DUCTILE IRON MANUFACTURED IN THE UNITED STATES OF AMERICA WITH MECHANICAL JOINTS (MJ) AND HAVE EBBA IRON, INC. RESTRAINT AT EACH MJ. EACH C900 PVC PIPE SHALL HAVE EBBA IRON, INC. SERIES 1500 BELL RESTRAINT HARNESS WHEN LOCATED WITHIN THE DIMENSIONS SPECIFIED ON PLANS FROM D.I. FITTINGS, GATE VALVES, FIRE HYDRANTS, AND DEAD END LINES, AND WRAPPED IN 8 MIL POLYETHYLENE FILM.
9. ALL FIRE HYDRANT LEADS TO BE CONSTRUCTED WITH DUCTILE IRON PIPE MANUFACTURED IN THE UNITED STATES OF AMERICA AND WRAPPED IN 8 MIL POLYETHYLENE FILM.
10. GATE VALVES SHALL CONFORM TO AWWA STANDARD C515 AND SHALL BE AMERICAN FLOW CONTROL, KENNEDY VALVE, EAST JORDAN IRON WORKS OR MUELLER COMPANY.
11. VALVE BOXES SHALL BE CAST IRON WITH ADJUSTABLE BARREL HEIGHT SET PLUMB WITH 24" X 24" X 5" CONCRETE PAD, VALVE BOXES IN ROAD OR SIDEWALK SHALL BE CONSTRUCTED WITH A TRAFFIC BEARING BOOT SIX INCH DUCTILE IRON PIPE AND PAVING RING.
12. BRASS FITTING SHALL BE FORD BRASS UNLESS OTHERWISE APPROVED BY THE DRIPPING SPRINGS WSC STAFF AND ENGINEER.
13. IF CONFLICT BETWEEN PROJECT SPECIFICATIONS AND WATER DISTRIBUTION SYSTEM CONSTRUCTION STANDARDS OF THE DRIPPING SPRINGS WSC, THE WSC CONSTRUCTION STANDARDS SHALL GOVERN, INCLUDING OMITTED ITEMS FROM THE PROJECT SPECIFICATIONS
14. CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING PRIOR TO BEGINNING WORK, THE DRIPPING SPRINGS WSC SHALL BE NOTIFIED A MINIMUM OF 2 BUSINESS DAYS IN ADVANCE OF MEETING.
15. CONTRACTOR SHALL PROVIDE SUBMITTAL INFORMATION TO THE DRIPPING SPRINGS WSC ON ALL MATERIALS PROPOSED TO BE INSTALLED FOR REVIEW AND TO DETERMINE CONFORMANCE WITH THE DRIPPING SPRINGS WSC CONSTRUCTION STANDARDS.
16. PIPE EMBEDMENT SHALL BE # 5 TOPPING ROCK FROM EITHER CHANAS AGGREGATE BLANCO LLC (WASHED CRUSHED ROCK) OR WEST HENLEY QUARRY AGGREGATE WITH SAMPLE PROVIDED TO AND APPROVED BY THE DRIPPING SPRINGS WSC STAFF. THERE SHALL BE A MINIMUM OF 12 INCHES EMBEDMENT MATERIAL OVER THE PIPE AND 6 INCHES EMBEDMENT MATERIAL UNDER THE PIPE.
17. FIRE HYDRANTS SHALL CONFORM TO AWWA STANDARD C502 AND SHALL BE AMERICAN DARLING 5 ¼ " B-84-B, KENNEDY VALVE GUARDIAN K81-D, EAST JORDAN IRON WORKS MASTER 5CD250 OR MUELLER SUPER CENTURION 250 WITH HOSE OPENINGS AND 5" STORZ QUICK CONNECT PUMPER NOZZLE WITH A CAST PENTAGON OPERATING NUT. THE 2 ½" DISCHARGE OUTLETS MUST BE NATIONAL HOSE THREAD. A BLUE, DOUBLE SIDED; REFLECTIVE MARKER MUST BE AFFIXED TO THE ROADWAY DIRECTLY IN LINE WITH THE FIRE HYDRANT. HYDRANTS SHALL HAVE A RED OR SILVER PAINT COATING. HYDRANTS SHALL BE PLACED SO THEY ARE READILY ACCESSIBLE WITH NO OBSTRUCTIONS WITHIN 4 FEET OF HYDRANT. DO NOT PLACE HYDRANT WITHIN OR ADJACENT TO A DRAINAGE STRUCTURE.
18. EACH SERVICE SADDLE SHALL BE SMITH BLAIR EPOXY COATED WITH DUAL STAINLESS STEEL BANDS COMPLETELY WRAPPED WITH 8 MIL POLYETHYLENE FILM.
19. TOP OF THE METER BOX SHALL BE 2 INCHES ABOVE FINISHED GRADE
20. PIPES CROSSING UNDER STREET OR DRIVEWAY PAVEMENT SHALL BE BACKFILLED USING CRUSHED LIMESTONE BASE 6 INCH MAXIMUM LIFTS TO 95% STANDARD PROCTOR ABOVE THE PIPE EMBEDMENT MATERIAL, FLOWABLE FILL OR SUCH OTHER BACKFILL AS MAY BE REQUIRED BY THE CITY OF DRIPPING SPRINGS AND OR HAYS COUNTY.
21. METER BOXES MUST BE PLASTIC. ALL TRAFFIC BEARING BOXES MUST BE MADE OF POLY
22. STATE HIGHWAY BORE SHALL BE IN COMPLIANCE WITH TXDOT PERMIT REQUIREMENTS
23. ALL NEW WATERLINE CONSTRUCTION MUST BE DISINFECTED, PASS A PRESSURE TEST AND PASS BACTERIOLOGICAL SAMPLES.
24. ANY UNDERGROUND ELECTRIC CONDUIT/CONDUCTORS OR GAS LINE CROSSING THE DRIPPING SPRINGS WSC LINE SHALL BE LOCATED A MINIMUM OF 12 INCHES UNDER THE WATERLINE AT NEAR 90 DEGREES AND BE ENCASED WITH A MINIMUM 4 INCH THICK CONCRETE FOR A LENGTH NOT LESS THAN 24 INCHES ON EACH SIDE OF THE O.D. OF THE WATERLINE.
25. ALL FIRE LINES WILL HAVE THE APPROPRIATE BACKFLOW PREVENTER INSTALLED AND BE PLACED INSIDE OF A PRECAST VAULT AT OR NEAR THE PROPERTY LINE UNLESS THERE IS A DEDICATED EASEMENT PROVIDED DRIPPING SPRINGS WSC, THE DRIPPING SPRINGS WSCS MAINTENANCE ENDS AT THE FIRST FLANGE ON THE FIRST GATE VALVE GOING INTO THE BACKFLOW PREVENTER.
26. METERS 3 INCH AND LARGER WILL BE PLACED IN A PRECAST VAULT AT OR NEAR THE PROPERTY LINE UNLESS A DEDICATED EASEMENT IS PROVIDED TO THE DRIPPING SPRINGS WSC.
27. THE DRIPPING SPRINGS WSC MAINTENANCE OR REPAIR RESPONSIBILITY SHALL END AT EACH SERVICE METER WITHIN THE METER BOX.
28. ALL SERVICE CONNECTIONS THAT EXCEED 65 PSI, THE DRIPPING SPRINGS WSC RECOMMENDS A PRESSURE REDUCING VALVE BE INSTALLED AND MAINTAINED BY THE CUSTOMER.
29. PARALLELING WATERLINES MUST BE REVIEWED BY THE DRIPPING SPRINGS WSC STAFF AND ENGINEER PRIOR TO APPROVAL.
30. PRESSURE REDUCING VALVES BUILT IN THE DISTRIBUTION SYSTEMS MUST BE CONSTRUCTED WITH A BYPASS LINE FOR MAINTENANCE.
31. METERS 1 ½ INCH AND LARGER MUST BE BUILT WITH A BYPASS LINE SO THE METER CAN BE MAINTAINED WITHOUT THE INTERRUPTION OF SERVICE.
32. VALVES SHALL BE INSTALLED SO TO LIMIT THE NUMBER OF CUSTOMERS WITH INTERRUPTED SERVICE DURING AN OUTAGE, VALVES SHALL BE PLACED AT ALL RUNS OF TEES UNLESS OTHERWISE APPROVED BY THE DRIPPING SPRINGS WSC STAFF AND ENGINEER.
33. ALL CAPPED OR PLUGGED LINES MUST BUSHING DOWN TO A 2" WITH A BLOW OFF VALVE TO RELIEVE PRESSURE.
34. ALL EASEMENTS DEDICATED TO THE DRIPPING SPRINGS WSC MUST BE AT LEAST 15 FEET WIDE UNLESS OTHERWISE APPROVED BY THE DRIPPING SPRINGS WSC STAFF AND ITS ENGINEER.
35. NEW SUBDIVISIONS WILL BE REQUIRED TO CONSTRUCT AT LEAST ONE ADDITIONAL SERVICE CONNECTION FOR THE CORPORATION TO INSTALL A DEDICATED SAMPLE SITE, ADDITIONAL SERVICE CONNECTION MUST BE NOTED ON PLANS AND LOCATION APPROVED BY THE DRIPPING SPRINGS WSC STAFF AND ITS ENGINEER.
36. WATER AND WASTEWATER LINE SEPARATION DISTANCES SHALL MEET THE REQUIREMENTS OF 30 TAC, CHAPTER 290. 44 (E)(4).
37. WHEN GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION RECOMMENDATIONS ON BEDDING AND BACKFILL SHALL BE PROVIDED BY A GEOTECHNICAL ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. ALL RECOMMENDATIONS SHALL BE APPROVED BY THE DRIPPING SPRINGS WSC STAFF AND ENGINEER.

CITY OF DRIPPING SPRINGS
STANDARD WASTEWATER UTILITY CONSTRUCTION NOTES
MARCH 2020

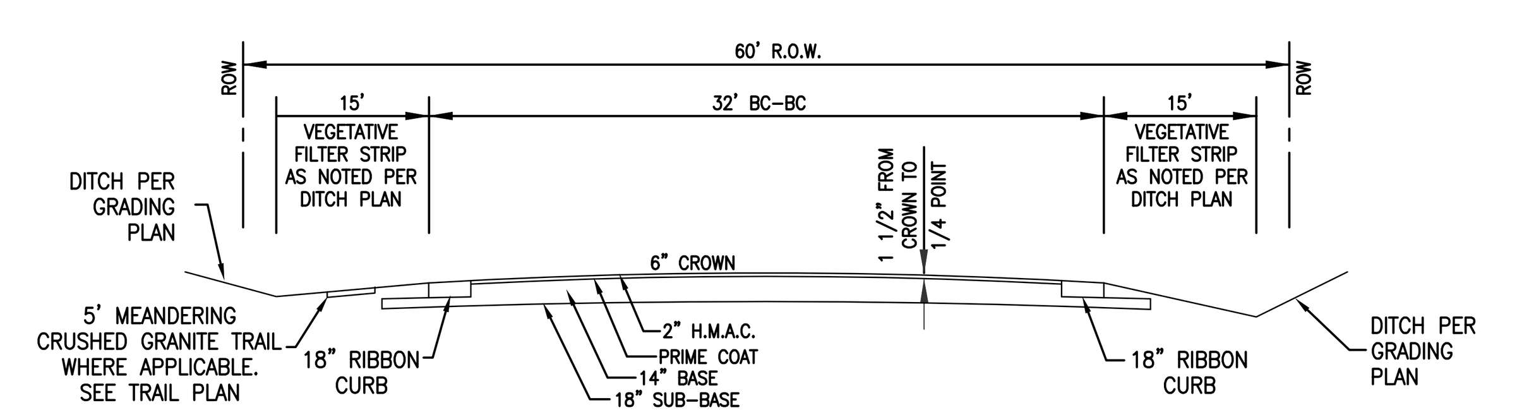
1. ALL WASTEWATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF AUSTIN AND TCEQ 30 TAC, CHAPTER 217 REQUIREMENTS.
2. CONTRACTOR SHALL GUARANTEE THE WORK AGAINST DEFECTIVE WORKMANSHIP AND MATERIALS FOR A PERIOD OF TWO (2) YEARS FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE CITY OF DRIPPING SPRINGS.
3. BEDDING FOR GRAVITY WASTEWATER LINES, FORCE MAINS, AND TREATED EFFLUENT LINES SHALL BE ¾" TO 1" ROCK WITH A 6 OUNCE NONWOVEN GEOTEXTILE FABRIC, MEETING EITHER TXDOT DMS 6200 OR TYPE 1 COA 620S, PLACED OVER THE BEDDING. CONTRACTOR SHALL PROVIDE A MINIMUM 5 GALLON BUCKET SAMPLE OF THE PROPOSED BEDDING MATERIAL FOR CITY OF DRIPPING SPRINGS APPROVAL.
4. WHEN GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION, RECOMMENDATIONS ON BEDDING AND BACKFILL SHALL BE PROVIDED BY A GEOTECHNICAL ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. ALL RECOMMENDATIONS SHALL BE APPROVED BY THE CITY OF DRIPPING SPRINGS.
5. CONTRACTOR SHALL ADHERE TO CITY OF AUSTIN STANDARD 1100S-1 FOR WASTEWATER MANHOLE RING ADJUSTMENTS IN PAVED AREAS.
6. GRAVITY WASTEWATER LINES SHALL BE PVC SDR 26 ASTM D3034 IF LOCATED GREATER THAN 9 FEET FROM A WATERLINE. IF LESS THAN 9 FEET (OUTSIDE OF PIPE TO OUTSIDE OF PIPE) FROM ANY WATER LINE, PIPE SHALL BE PVC SDR 26 ASTM D2241 PRESSURE RATED PIPE.
7. FORCE MAINS SHALL BE MINIMUM PVC SDR 26 ASTM D2241 PRESSURE RATED PIPE IN BROWN POLY BAG.
8. TREATED EFFLUENT LINES SHALL BE MINIMUM PVC SDR 21 ASTM D2241 PURPLE PRESSURE RATED PIPE.
9. ALL WASTEWATER MANHOLES ARE TO BE COATED WITH CEMENTITIOUS LINING (SEWPERCOAT® OR APPROVED EQUAL) PER CITY OF AUSTIN REQUIREMENTS. EXISTING MANHOLES WHERE CONNECTIONS ARE MADE TO THE CITY SEWER SYSTEM SHALL BE COATED OR RECOATED AFTER CONNECTIONS ARE MADE OR AFTER MANHOLE ADJUSTMENTS ARE MADE.
10. ENGINEER AND CONTRACTOR SHALL COORDINATE WITH THE DRIPPING SPRINGS WSC REGARDING WATER LINE AND WATER SERVICE LINE CROSSINGS.
11. CONTRACTOR SHALL INSTALL BOLTED MANHOLE LIDS ON ALL MANHOLES OUTSIDE PAVEMENT.
12. WASTEWATER MANHOLE LIDS SHALL HAVE "SANITARY SEWER" CAST IN THE LID.
13. CITY OF DRIPPING SPRINGS' INSPECTOR SHALL OBSERVE INSTALLATION OF ALL TAPS ONTO WASTEWATER LINES.
14. CITY OF DRIPPING SPRINGS' INSPECTOR SHALL BE NOTIFIED 48 HOURS PRIOR TO ALL UTILITY LINE TESTING BY CALLING THE CITY 512-858-4725 OR THE DESIGNATED INSPECTOR IDENTIFIED AT THE PRECONSTRUCTION MEETING.
15. CONTRACTOR SHALL PERFORM THE FOLLOWING TESTING ON ALL TYPES OF WASTEWATER IMPROVEMENTS AT HIS EXPENSE:
   A. GRAVITY WASTEWATER LINES AND SERVICES – LOW PRESSURE AIR TEST.
   B. GRAVITY WASTEWATER LINES – MANDREL DEFLECTION TESTING AFTER 30 DAYS OF FINAL BACKFILL.
   C. GRAVITY WASTEWATER LINES – TELEVISED UPON COMPLETION OF CONSTRUCTION AND PRIOR TO PAVING. CONTRACTOR SHALL PROVIDE THE VIDEOS OF THE PIPES TO THE CITY OF DRIPPING SPRINGS PRIOR TO ACCEPTANCE.
   D. WASTEWATER MANHOLES – VACUUM TEST @ 10 INCHES OF MERCURY FOR 3 MINUTES. THE MANHOLE SHALL HAVE PASSED THE TEST IF THE VACUUM DOES NOT DROP BELOW 9 INCHES OF MERCURY (-4.5 PSIG) WITHIN 3 MINUTES OF THE TIME THE VALVE WAS CLOSED. NO VACUUM TESTING WILL BE ACCEPTED BY THE CITY OF DRIPPING SPRINGS UNTIL COMPLETION OF MINIMUM FIRST COURSE OF BASE IS INSTALLED.
   E. FORCE MAINS AND TREATED EFFLUENT LINES – HYDROSTATICALLY TEST TO A MINIMUM OF 1.5 TIMES WORKING PRESSURE FOR 24 HOURS.
   F. EXISTING WASTEWATER FACILITIES – PRETEST AND POSTTEST EXISTING LINES AND MANHOLES WHEN CONNECTING TO EXISTING FACILITIES.
16. NEWLY PLANTED TREES SHALL BE LOCATED AT LEAST 10 FEET FROM PUBLIC WASTEWATER SERVICE LINES TO BE MAINTAINED BY THE CITY.

SEQUENCE OF CONSTRUCTION

1. HOLD PRE-CONSTRUCTION MEETING.
2. NO CLEARING OR ROUGH GRADING MAY BE DONE UNTIL THE APPROVED EROSION AND SEDIMENTATION CONTROLS ARE IN PLACE.
3. INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS AND STABILIZATION CONSTRUCTION ENTRANCE, IF REQUIRED, IN THE APPROVED PLANS.
4. ROUGH CUT DETENTION/WATER QUALITY PONDS/BASINS AND DIRECT RUNOFF TO PONDS TO ACT AS A SEDIMENT TRAP.
5. ROUGH GRADE STREETS.
6. INSTALL ALL UTILITIES IN RIGHTS-OF-WAY.
7. RE-GRADE AND COMPACT SUBGRADE. MEET WITH CITY INSPECTOR AND/DESIGN ENGINEER TO DETERMINE AREAS OF DIFFERING STREET SECTION THICKNESS OR SUBGRADE PREPARATION IF CALLED FOR IN THE GEOTECHNICAL REPORT.
8. INSURE ALL UNDERGROUND UTILITY CROSSINGS ARE IN PLACE INCLUDING SLEEVES FOR DRY UTILITIES AND INSTALL FIRST COURSE OF BASE.
9. INSTALL CURBS, RIP-RAP AND MISCELLANEOUS CONCRETE.
10. INSTALL SECOND COURSE OF BASE.
11. PRIOR TO PAVING, ALL UTILITY TESTING MUST BE COMPLETE AND APPROVED BY THE UTILITY OWNER
12. LAY ASPHALT.
13. FINAL GRADE ANY DITCHES AND PARKWAYS.
14. REVEGETATE ALL DISTURBED AREAS. DISPOSE OF SPOIL IN AN APPROVED MANNER.
15. SCHEDULE A FINAL INSPECTION WITH CITY.
16. AFTER ACCEPTANCE OF CONSTRUCTION, TEMPORARY EROSION CONTROLS MAY BE REMOVED.

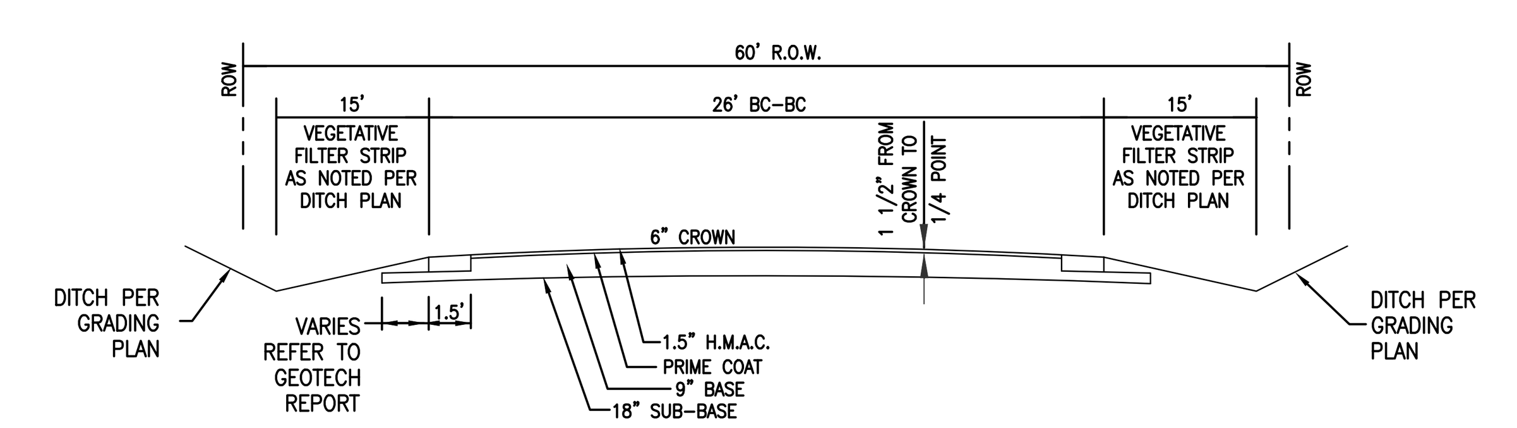
ROADWAY CLASSIFICATION SUMMARY TABLE

ROADWAY	CLASSIFICATION	R.O.W. WIDTH	PAVEMENT WIDTH (BC-BC)	DESIGN SPEED
EX. SOARING HILL DRIVE	(MAJOR ARTERIAL)	100+	32'	20 & 35
HC CARTER WAY	(MINOR ARTERIAL)	100+	32' DIVIDED	20 & 35
WHISKEY BARREL DRIVE	(MINOR ARTERIAL)	60'	29'-32'	25 & 35
HICKERY GROVE DRIVE	(MINOR ARTERIAL)	60'-75'	26'-29'	25
DREAM CATCHER LOOP	(MINOR ARTERIAL)	60'	29'	25
BIRDHOUSE LANE	(LOCAL STREET)	60'	29'	25
BROOKHILL DRIVE	(LOCAL STREET)	60'	29'	25
FLY CATCHER COVE	(LOCAL STREET)	60'	29'	25
GARDEN SPRING LOOP	(LOCAL STREET)	60'	29'	25
HAWKTREE ROAD	(LOCAL STREET)	60'	29'	25
PICKENS DRIVE	(LOCAL STREET)	60'	29'	25
ROBIN'S EGG LOOP	(LOCAL STREET)	60'	29'	25



DESIGN FOR TYPICAL MINOR ARTERIAL STREET – RIBBON CURB
N.T.S.

*SEE GEOTECHNICAL REPORT FOR MORE DETAILS



DESIGN FOR TYPICAL LOCAL STREET – RIBBON CURB
N.T.S.

*SEE GEOTECHNICAL REPORT FOR MORE DETAILS

DESIGNED BY: QD	DRAFTED BY: CJP

DATE | REVISION

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SHEET NAME: GENERAL NOTES
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC. ID# F3791

DATE June 2023
JOB NUMBER 5079
SHEET 2 OF 162

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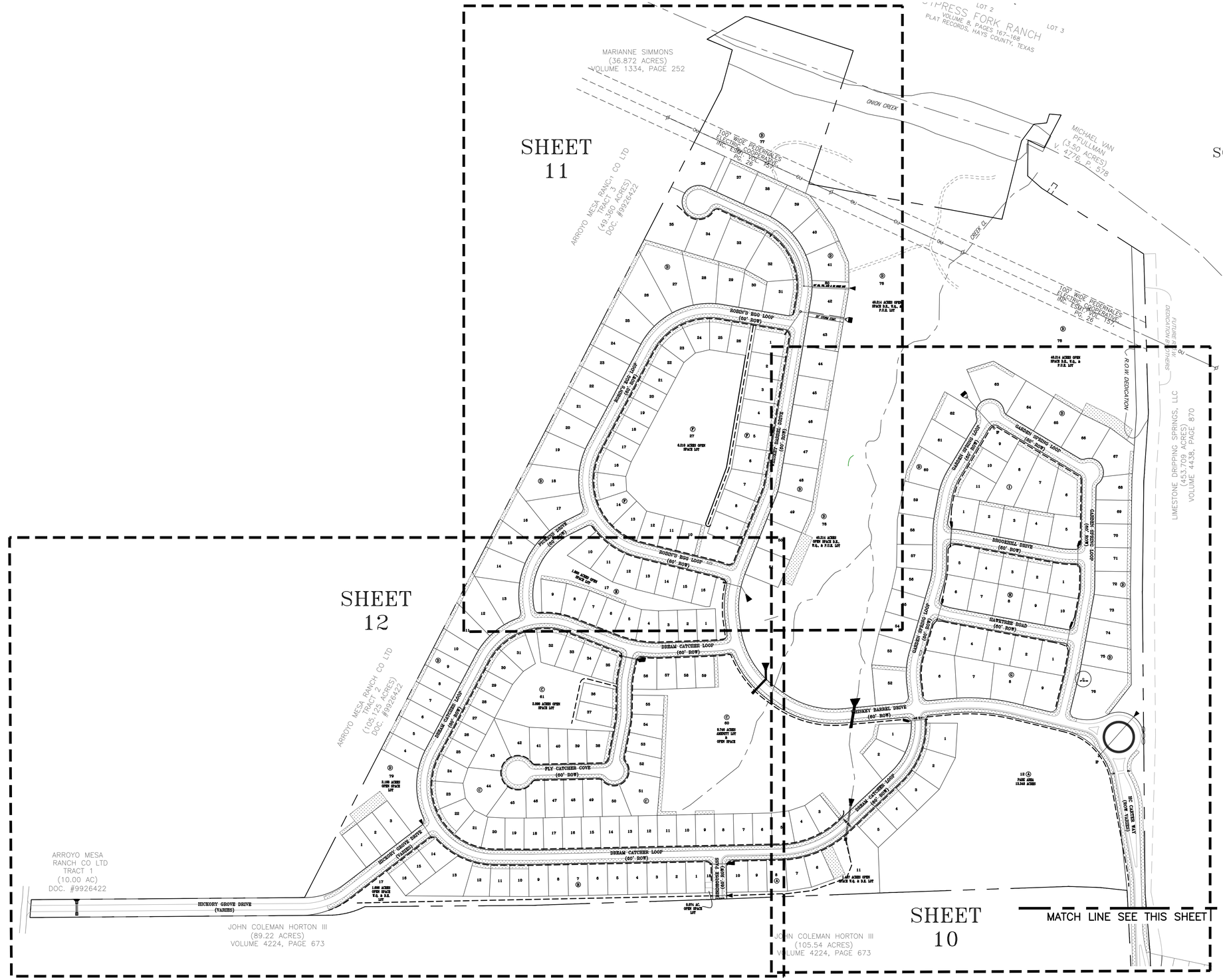

LEGEND

- SF — SILT FENCE
- LOC — LIMITS OF CONSTRUCTION
- JH — J HOOK
- IP — INLET PROTECTION
- RB — ROCK BERM
- RB — DOUBLE DUTY ROCK BERM
- STABILIZED CONSTRUCTION ENTRANCE
- STAGING AND SPOILS AREA
- CONCRETE WASH AREA
- VEGETATED FILTER STRIPS
- EARTHEN BERM
- 568 — EXIST. MINOR CONTOUR
- 570 — EXIST. MAJOR CONTOUR

DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE

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SHEET NAME: OVERALL EROSION SEDIMENTATION CONTROL PLAN

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE
April 2023

JOB NUMBER
5079

SHEET
9 OF 162

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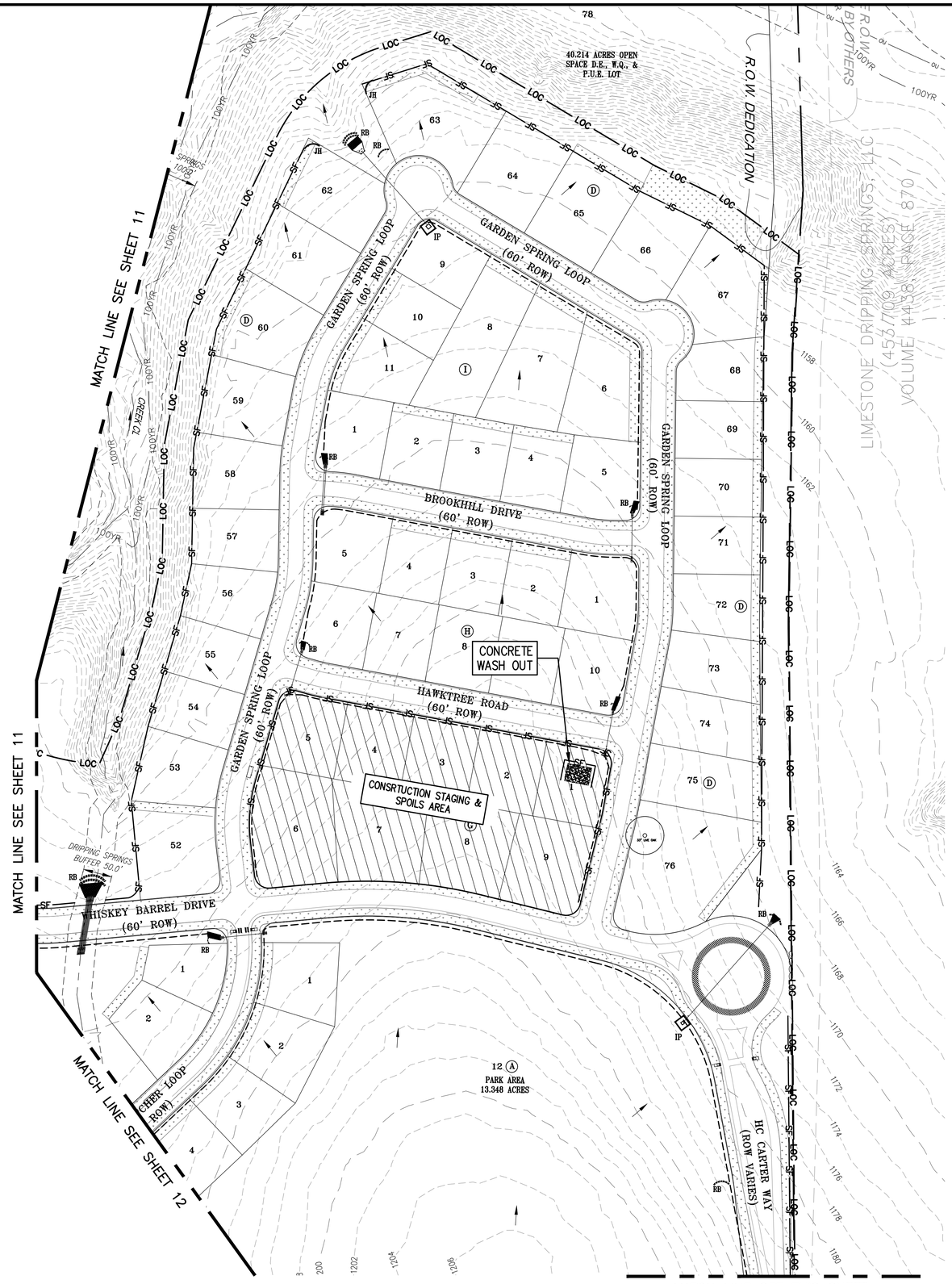

SCALE: 1" = 100'

LEGEND	
SF	SILT FENCE
LOC	LIMITS OF CONSTRUCTION
JH	J HOOK
IP	INLET PROTECTION
RB	ROCK BERM
RB	DOUBLE DUTY ROCK BERM
	STABILIZED CONSTRUCTION ENTRANCE
	STAGING AND SPOILS AREA
	CONCRETE WASH AREA
	VEGETATED FILTER STRIPS
	EARTHEN BERM
	SWALE
568	EXIST. MINOR CONTOUR
570	EXIST. MAJOR CONTOUR

DESIGNED BY:	DRAFTED BY:
QD	CIP

DATE

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North Office: 12129 RR 620 N., Ste. 600 Austin, Texas 78750 www.cbdeng.com

SHEET NAME: EROSION SEDIMENTATION CONTROL PLAN (1 OF 3)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: April 2023

JOB NUMBER: 5079

SHEET: 10 OF 162

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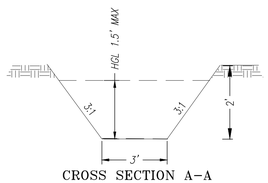
LEGEND

- SF — SILT FENCE
- LOC — LIMITS OF CONSTRUCTION
- JH — J HOOK
- IP — INLET PROTECTION
- RB — ROCK BERM
- RB — DOUBLE DUTY ROCK BERM
- STABILIZED CONSTRUCTION ENTRANCE
- STAGING AND SPOILS AREA
- CONCRETE WASH AREA
- VEGETATED FILTER STRIPS
- EARTHEN BERM
- SWALE
- 568 — EXIST. MINOR CONTOUR
- 570 — EXIST. MAJOR CONTOUR

0 100' 200'

SCALE: 1" = 100'



CROSS SECTION A–A

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DATE	
REVISION	

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SHEET NAME: EROSION SEDIMENTATION CONTROL PLAN (2 OF 3)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: April 2023

JOB NUMBER: 5079

SHEET: 11 OF 162

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MATCH LINE SEE SHEET 11

MATCH LINE SEE SHEET 11

DREAM CATCHER LOOP
(60' ROW)

DRIPPING SPRINGS BUFFER 50.0'

ARROYO MESA RANCH CO LTD
TRACT 2
(105.125 ACRES)
DOC. #9926422

DREAM CATCHER LOOP
(60' ROW)

61
2.098 ACRES OPEN SPACE LOT

60
9.746 ACRES AMENITY LOT & OPEN SPACE

CREEK 2

FLY CATCHER COVE
(60' ROW)

79
2.168 ACRES OPEN SPACE LOT

MATCH LINE SEE SHEET 10

DREAM CA
(60'

HICKORY GROVE DRIVE
(VARIES)

DREAM CATCHER LOOP
(60' ROW)

BIRDHOUSE PASS
(60' ROW)

17
1.696 ACRES OPEN SPACE W.Q. & D.E. LOT

0.074 AC. OPEN SPACE LOT

1.167 ACRES OPEN SPACE W.Q. & D.E. LOT

MATCH LINE SEE THIS SHEET

EM HORTON III
.22 ACRES)
422, PAGE 673

JOHN COLEMAN HORTON III
(105.54 ACRES)
VOLUME 4224, PAGE 673

ARROYO MESA RANCH CO LTD
TRACT 1
(10.00 AC)
DOC. #9926422

HICKORY GROVE DRIVE
(VARIES)

MATCH LINE SEE THIS SHEET

JOHN COLEMAN HOR

LEGEND

SF	SILT FENCE
LOC	LIMITS OF CONSTRUCTION
JH	J HOOK
IP	INLET PROTECTION
RB	ROCK BERM
RB	DOUBLE DUTY ROCK BERM
	STABILIZED CONSTRUCTION ENTRANCE
	STAGING AND SPOILS AREA
	CONCRETE WASH AREA
	VEGETATED FILTER STRIPS
	EARTHEN BERM
	SWALE
568	EXIST. MINOR CONTOUR
570	EXIST. MAJOR CONTOUR

0 100' 200'

SCALE: 1" = 100'

HGL 1.5' MAX
3:1
3:1
2' MIN.
3'

CROSS SECTION A-A

DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE

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SHEET NAME: EROSION SEDIMENTATION CONTROL PLAN (3 OF 3)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
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LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE
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JOB NUMBER
5079

SHEET
12 OF 162

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APPENDIX P-1 – EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. THE COA ESC PLAN SHALL BE CONSULTED AND USED AS THE BASIS FOR A TPDES REQUIRED SWPPP. IF A SWPPP IS REQUIRED, IT SHALL BE AVAILABLE FOR REVIEW BY THE CITY OF AUSTIN ENVIRONMENTAL INSPECTOR AT ALL TIMES DURING CONSTRUCTION, INCLUDING AT THE PRE-CONSTRUCTION MEETING. THE CHECKLIST BELOW CONTAINS THE BASIC ELEMENTS THAT SHALL BE REVIEWED FOR PERMIT APPROVAL BY HAYS COUNTY AND DRIPPING SPRINGS EV PLAN REVIEWERS AS WELL AS HAYS COUNTY AND DRIPPING SPRINGS EV INSPECTORS.
3. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.
4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND ENVIRONMENTAL INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTION MEASURES AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE OWNER OR OWNER'S REPRESENTATIVE SHALL NOTIFY THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. COA APPROVED ESC PLAN AND TPDES SWPPP (IF REQUIRED) SHOULD BE REVIEWED BY HAYS COUNTY AND DRIPPING SPRINGS EV INSPECTOR AT THIS TIME.
5. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST OR CITY ABORIST AS APPROPRIATE. MAJOR REVISIONS MUST BE APPROVED BY THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
6. THE CONTRACTOR IS REQUIRED TO PROVIDE A CERTIFIED INSPECTOR WITH EITHER A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), CERTIFIED EROSION, SEDIMENT AND STORMWATER-INSPECTOR (CESSWI) OR CERTIFIED INSPECTOR OF SEDIMENTATION AND EROSION CONTROLS (CISEC) CERTIFICATION TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
7. PRIOR TO FINAL ACCEPTANCE BY HAYS COUNTY AND DRIPPING SPRINGS, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.
8. ALL WORK MUST STOP IF A VOID IN THE ROCK SUBSTRATE IS DISCOVERED WHICH IS; ONE SQUARE FOOT IN TOTAL AREA; BLOWS AIR FROM WITHIN THE SUBSTRATE AND/OR CONSISTENTLY RECEIVES WATER DURING ANY RAIN EVENT. AT THIS TIME IT IS THE RESPONSIBILITY OF THE PROJECT MANAGER TO IMMEDIATELY CONTACT A HAYS COUNTY AND DRIPPING SPRINGS ENVIRONMENTAL INSPECTOR FOR FURTHER INVESTIGATION.
9. TEMPORARY AND PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW.
   A. ALL DISTURBED AREAS TO BE REVEGETATED ARE REQUIRED TO PLACE A MINIMUM OF SIX (6) INCHES OF TOPSOIL [SEE STANDARD SPECIFICATION ITEM NO. 601S.3(A)]. DO NOT ADD TOPSOIL WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES. THE TOPSOIL SHALL BE COMPOSED OF 4 PARTS OF SOIL MIXED WITH 1 PART COMPOST, BY VOLUME. THE COMPOST SHALL MEET THE DEFINITION OF COMPOST AS DEFINED BY TXDOT SPECIFICATION ITEM 161. THE SOIL SHALL BE LOCALLY AVAILABLE NATIVE SOIL THAT MEETS THE FOLLOWING SPECIFICATIONS:
      - § SHALL BE FREE OF TRASH, WEEDS, DELETERIOUS MATERIALS, ROCKS, AND DEBRIS.
      - § 100% SHALL PASS THROUGH A 1.5-INCH (38-MM) SCREEN.
      - § SOIL TO BE A LOAMY MATERIAL THAT MEETS THE REQUIREMENTS OF THE TABLE BELOW IN ACCORDANCE WITH THE USDA TEXTURAL TRIANGLE. SOIL KNOWN LOCALLY AS "RED DEATH" IS NOT AN ALLOWABLE SOIL. TEXTURAL COMPOSITION SHALL MEET THE FOLLOWING CRITERIA:

TEXTURE CLASS	MINIMUM	MAXIMUM
CLAY	5 %	50 %
SILT	10 %	50 %
SAND	15 %	67 %

      - § AN OWNER/ENGINEER MAY PROPOSE USE OF ONSITE SALVAGED TOPSOIL WHICH DOES NOT MEET THE SOIL TEXTURE CLASS REQUIRED ABOVE BY PROVIDING A SOIL ANALYSIS AND A WRITTEN STATEMENT FROM A QUALIFIED PROFESSIONAL IN SOILS, LANDSCAPE ARCHITECTURE, OR AGRONOMY INDICATING THE ONSITE TOPSOIL WILL PROVIDE AN EQUIVALENT GROWTH MEDIA AND SPECIFYING WHAT, IF ANY, SOIL AMENDMENTS ARE REQUIRED.
      - § SOIL AMENDMENTS SHALL BE WORKED INTO THE EXISTING ONSITE TOPSOIL WITH A DISC OR TILLER TO CREATE A WELL-BLENDED MATERIAL.

   TOPSOIL SALVAGED FROM THE EXISTING SITE MAY OFTEN BE USED, BUT IT SHOULD MEET THE SAME STANDARDS AS SET FORTH IN THESE STANDARDS.

THE VEGETATIVE STABILIZATION OF AREAS DISTURBED BY CONSTRUCTION SHALL BE AS FOLLOWS:

TEMPORARY VEGETATIVE STABILIZATION:

1. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH COOL SEASON COVER CROPS (WHEAT AT 0.5 POUNDS PER 1000 SF, OATS AT 0.5 POUNDS PER 1000 SF, CEREAL RYE GRAIN AT 0.5 POUNDS PER 1000 SF) WITH A TOTAL RATE OF 1.5 POUNDS PER 1000 SF. COOL SEASON COVER CROPS ARE NOT PERMANENT EROSION CONTROL.
2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUNDS PER 1000 SF.
   A. FERTILIZER SHALL BE WATER SOLUBLE WITH AN ANALYSIS OF 15-15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1/2 POUND PER 1000 SF.
   B. HYDROMULCH SHALL COMPLY WITH TABLE1, BELOW.
   C. TEMPORARY EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.
   D. WHEN REQUIRED, NATIVE GRASS SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL.

TABLE 1: HYDROMULCHING FOR TEMPORARY VEGETATIVE STABILIZATION

MATERIAL	LONGEVITY	DESCRIPTION	TYPICAL APPLICATIONS	APPLICATION RATES
100% OR ANY BLEND OF WOOD, CELLULOSE, STRAW, AND/OR COTTON MATERIAL (EXCEPT NO MULCH SHALL EXCEED 30% PAPER)	0–3 MONTHS	70% OR GREATER WOOD/STRAW 30% OR LESS PAPER OR NATURAL FIBERS	MODERATE SLOPES; FROM FLAT TO 3:1	1500 TO 2000 LBS PER ACER

PERMANENT VEGETATIVE STABILIZATION:

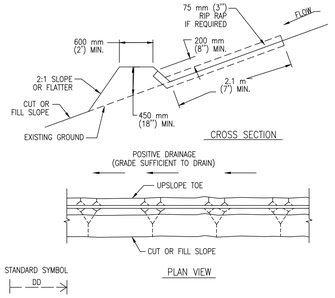
1. FROM SEPTEMBER 15 TO MARCH 1, SEEDING IS CONSIDERED TO BE TEMPORARY STABILIZATION ONLY. IF COOL SEASON COVER CROPS EXIST WHERE PERMANENT VEGETATIVE STABILIZATION IS DESIRED, THE GRASSES SHALL BE MOWED TO A HEIGHT OF LESS THAN ONE-HALF (1/2) INCH AND THE AREA SHALL BE RE-SEEDED IN ACCORDANCE WITH 2. BELOW.
2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUND PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION. BERMUDA GRASS IS A WARM SEASON GRASS AND IS CONSIDERED PERMANENT EROSION CONTROL.
   A. FERTILIZER SHALL BE A WATER SOLUBLE WITH AN ANALYSIS OF 15-15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1/2 POUND PER 1000 SF.
   B. HYDROMULCH SHALL COMPLY WITH TABLE 2, BELOW.
   C. THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT DAILY INTERVALS (MINIMUM) DURING THE FIRST TWO MONTHS. RAINFALL OCCURRENCES OF ½ INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK.
   D. PERMANENT EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1½ INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.
   E. WHEN REQUIRED, NATIVE GRASS SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL.

TABLE 2: HYDROMULCHING FOR PERMANENT VEGETATIVE STABILIZATION

MATERIAL	DESCRIPTION	LONGEVITY	TYPICAL APPLICATIONS	APPLICATION RATES
BONDED FIBER MATRIX (BFM)	80% ORGANIC DEFIBRATED FIBERS 10% TACKIFIER	6 MONTHS	ON SLOPES UP TO 2:1 AND EROSIVE SOIL CONDITIONS	2500 TO 4000 LBS PER ACRE (SEE MANUFACTURES RECOMMENDATIONS)
FIBER REINFORCED MATRIX (FRM)	65% ORGANIC DEFIBRATED FIBERS 25% REINFORCING FIRBERS OR LESS 10% TACKIFIER	UP TO 12 MONTHS	ON SLOPES UP TO 1:1 AND EROSIVE SOIL CONDITIONS	3000 TO 4000 LBS PER ACRE (SEE MANUFACTURES RECOMMENDATIONS)

10. DEVELOPER INFORMATION:

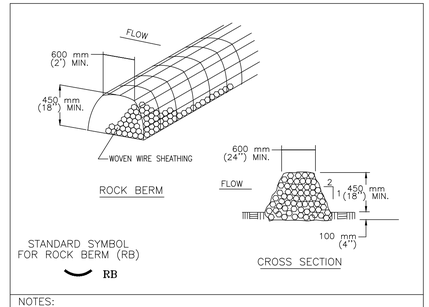
OWNER CSLK CARTER, LLC PHONE # (972)960-2777
ADDRESS 12222 MERIT DRIVE, SUITE 1050 DALLAS, TX 75251
OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:
GREGORY L. RICH PHONE # (972)960-2777
PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE:
CONTRACTOR PHONE #
PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE:
CONTRACTOR PHONE #



GENERAL NOTES :

1. ALL DIKES SHALL BE MACHINE COMPACTED.
2. ALL DIVERSION DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. a. DIVERTED RUNOFF FROM A PROTECTED OR STABILIZED AREA SHALL HAVE ITS OUTLET FLOW DIRECTED TO AN UNDISTURBED STABILIZED AREA OR INTO A LEVEL SPREADER OR GRADE STABILIZATION STRUCTURE.
   b. DIVERTED RUNOFF FROM A DISTURBED OR EXPOSED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE, SUCH AS A ROCK BERM, BRUSH BERM, STONE OUTLET STRUCTURE, SEDIMENT TRAP OR SEDIMENT BASIN OR TO AN AREA PRO-TECTED BY ANY OF THESE PRACTICES.
4. UNLESS OTHERWISE SPECIFIED, EROSION STABILIZATION SHALL BE OPEN GRADED ROCK 75 TO 125 mm (3 TO 5 inches) IN DIAMETER EMBEDDED IN SOIL SURFACE.
5. INSPECTION SHALL BE CONDUCTED WEEKLY OR AFTER EACH RAINFALL EVENT.

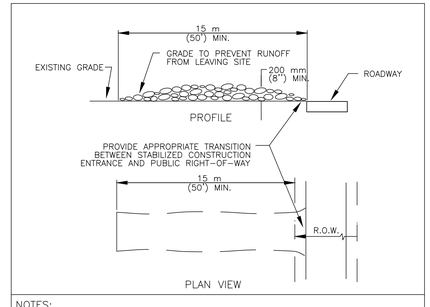
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	DIVERSION DIKE	
RECORD COPY SIGNED BY J. PATRICK MURPHY 3/27/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 622S-1



NOTES:

1. USE ONLY OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR ALL CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE).
3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. IF SEDIMENT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 150 mm (6"), WHICHEVER IS LESS, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTION PROBLEM.
5. WHEN THE SITE IS COMPLETELY STABILIZED,THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

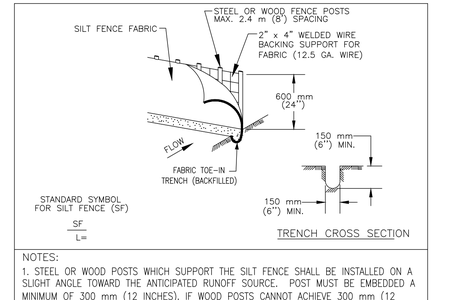
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	ROCK BERM	
RECORD COPY SIGNED BY J. PATRICK MURPHY 5/23/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 639S-1



NOTES:

1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

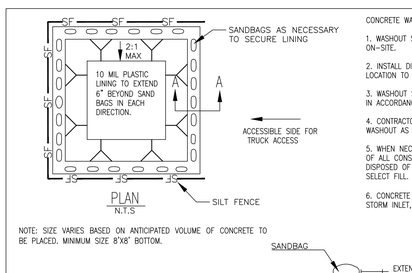
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STABILIZED CONSTRUCTION ENTRANCE	
RECORD COPY SIGNED BY J. PATRICK MURPHY 5/23/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S-1



NOTES:

1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 inches) DEPTH, USE STEEL POSTS.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 inches) DEEP AND 150 mm (6 inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	SILT FENCE	
RECORD COPY SIGNED BY J. PATRICK MURPHY 09/01/2011 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1



NOTES:
1. WHERE MINIMUM CLEARANCES CAUSE TRAFFIC TO DRIVE IN THE GUTTER, THE CONTRACTOR MAY SUBSTITUTE A 25 mm X 100 mm (1" X 4") BOARD SECURED WITH CONCRETE NAILS 1 m (3') O.C. NAILED INTO THE GUTTER IN LIEU OF SANDBAGS TO HOLD THE FILTER DIKE IN PLACE. UPON REMOVAL, CLEAN ANY DIRT/DEBRIS FROM NAILING LOCATIONS, APPLY CHEMICAL SANDING AGENT AND APPLY NON-SHRINK GROUT FLUSH WITH SURFACE OF GUTTER.
2. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.
3. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 50 mm (2").
4. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORMWATER BEGINS TO OVERTOP THE CURB.
5. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	FILTER DIKE CURB INLET PROTECTION	
RECORD COPY SIGNED BY J. PATRICK MURPHY 09/01/2011 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 628S-2 1 OF 2

NOTES:

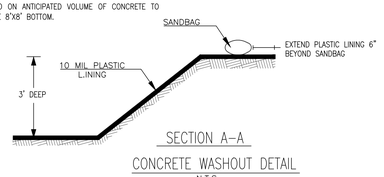
1. MATERIAL – THE FABRIC MUST CORRESPOND TO THE FOLLWNG REQUIREMENTS:

PROPERTY FABRIC WEIGHT	ASTM TEST METHOD	REQUIREMENTS
ULTRAVIOLET (UV)	D 3776	≥ 3.0 OUNCES/SQUARE YARD
RADIATION STABILITY	D 4355	70% STRENGTH RETAING (MIN.),
MUUEN BURST STRENGTH	D 3786	AFTER 500 HOURS IN XENON ARC DEVICE
WATER FLOW RATE	D 4491	≥120 POUND PER SOUPRE INCH ≥275 GALLONS/MINUTE/SQUARE FEET

2. THIS MATERIAL SHOULD HAVE A MAXIMUM EXPECTED USEFUL LIFETIME OF APPROXIMATELY EIGHTEEN (18) MONTHS. THE INLET PROTECTION DEVICES SHOULD BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEAN OUT AND DISOSAL OF TRAPPED SEDIMENT WHILE MINIMIXING INTERFERENCE WITH CONSTRUCTION ACTIVITIES. THEY SHOULD ALSO BE CONSTRUCTION SUCH THAT ANY PONDING OF STORMS WATER WILL NOT CAUSE EXCESSIVE R.OW. FLOODING (I.E. <4 INCHES OF STANDING WATER) OR DAMAGE TO THE STRUCTURE OR ADJACENT AREAS.
3. COVERAGE – THE FABRIC/WIRE SHOULD COMPLETELY COVER THE OPENING OF THE INLET AND DEVICES SHOULD BE INSTALLED WITHOUT PROTRUDING PARTS THAT COULD BE A TRAFFIC, WORKER, OR PEDESTRIAN HAZARD. WHERE SECTIONS OF THE FABRIC OVERLAP, THEY SHALL OVERLAP AT LEAST THREE (3) INCHES.
4. THE INLET FILTER SHALL BE ATTACHED IN A WAY THAT THEY CAN EASILY BE REMOVED AND ARE NOT SECURED OR ATTACHED BY THE USE OF SAND BAGS. THE INLET FILTER MUST BE REMOVED UPON COMPLETION OF WORK, IF REMOVAL DAMAGES THE CONCRETE CURB, THE CURB MUST BE REPAIRED IMMEDIATELY.
5. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN THE DEPTH REACHES 50 MM (2 INCHES) OR ONE-THIRD THE HEIGHT OF THE INLET THROAT, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITION SILTATION.
6. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORM WATER BEGINS TO OVERTOP THE CURB.
7. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT HAS ACHIEVED FINAL STABILIZATION CONDITIONS.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	FILTER DIKE CURB INLET PROTECTION	
RECORD COPY SIGNED BY J. PATRICK MURPHY 09/01/2011 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 628S-2 1 OF 2

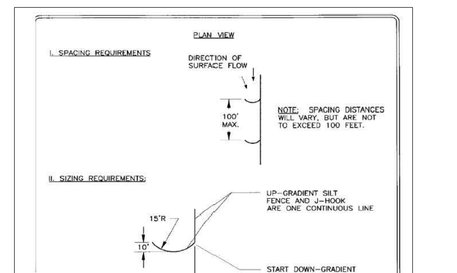
NOTE: SIZE VARIES BASED ON ANTICIPATED VOLUME OF CONCRETE TO BE PLACED. MINIMUM SIZE 8'X8' BOTTOM.



CONCRETE WASHOUT DETAIL
N.T.S.

CONCRETE WASHOUT AREA NOTES:

1. WASHOUT SHALL BE INSTALLED PRIOR TO PLACING ANY CONCRETE ON-SITE.
2. INSTALL DIRECTIONAL SIGNS AS NECESSARY TO INDICATE WASHOUT LOCATION TO CONCRETE SUPPLY VEHICLES.
3. WASHOUT SHALL BE INSPECTED WEEKLY AND AFTER RAIN EVENTS IN ACCORDANCE WITH SWPPP.
4. CONTRACTOR TO MAINTAIN, REPAIR, ENLARGE OR RELOCATE WASHOUT AS NECESSARY TO MEET PROJECT REQUIREMENTS.
5. WHEN NECESSARY DURING CONSTRUCTION, OR AT THE COMPLETION OF ALL CONSTRUCTION, CONCRETE SHALL BE REMOVED AND LAWFULLY DISPOSED OF AND THE WASHOUT AREA FILLED WITH COMPACTED SELECT FILL.
6. CONCRETE WASHOUT SHALL NOT BE LOCATED WITHIN 50' OF STORM INLET, DITCH, OR SUBSURFACE DRAINAGE SYSTEM.



DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Austin Office: 5501 West William Cannon Dr. 78749 Phone No. (512) 280-5160
North Office: 12129 RR (620 N.), Ste. 600 Austin, Texas 78750 www.cbdeng.com

SHEET NAME: EROSION SEDIMENTATION CONTROL PLAN (3 OF 3)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023
STATE OF TEXAS QUYNN DUSEK 130416 LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC. ID# F3791

DATE April 2023
JOB NUMBER 5079
SHEET 13 OF 162

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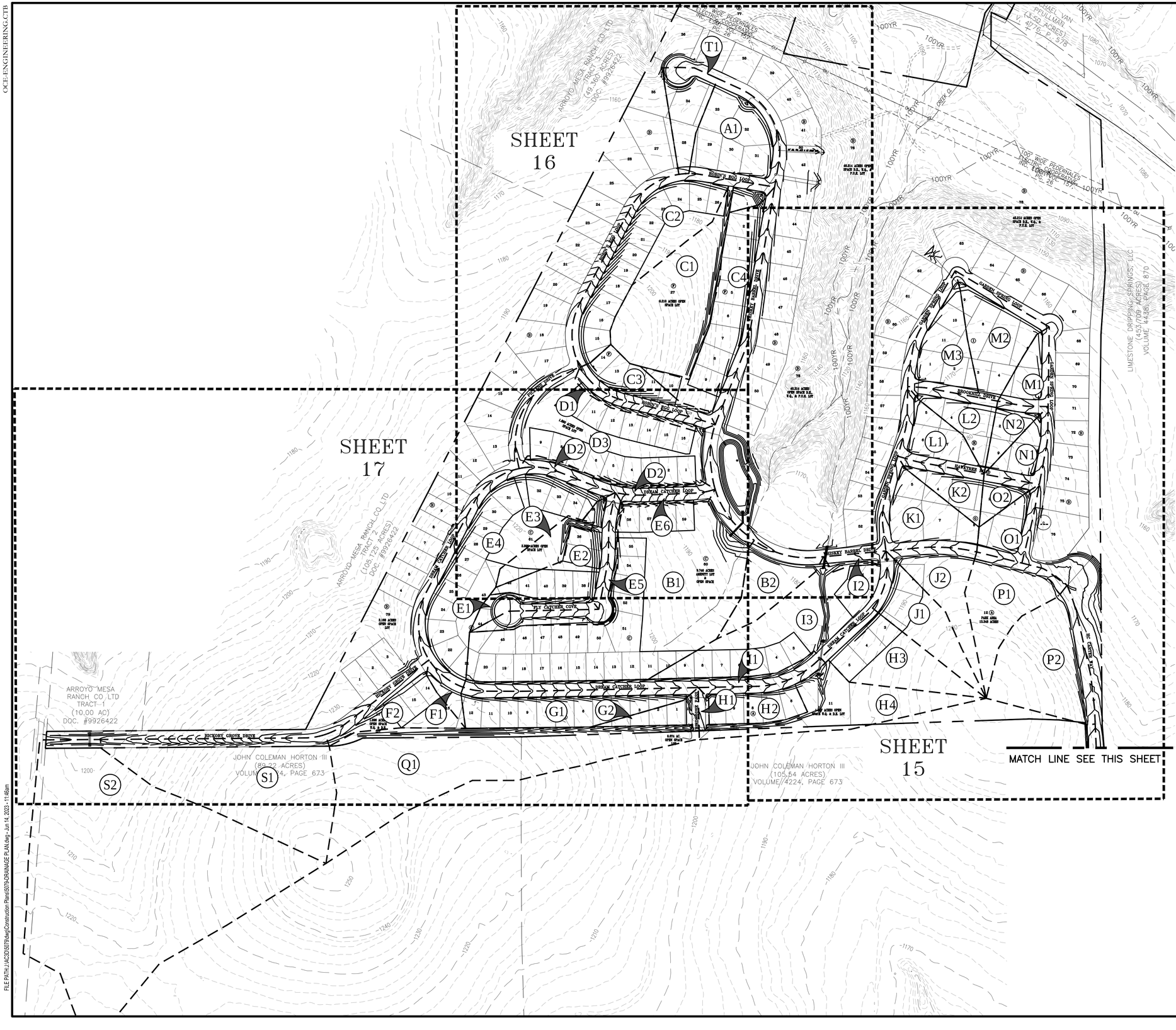
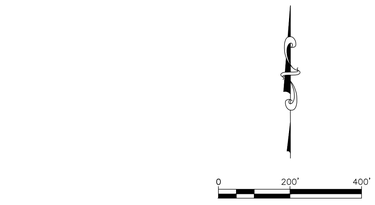
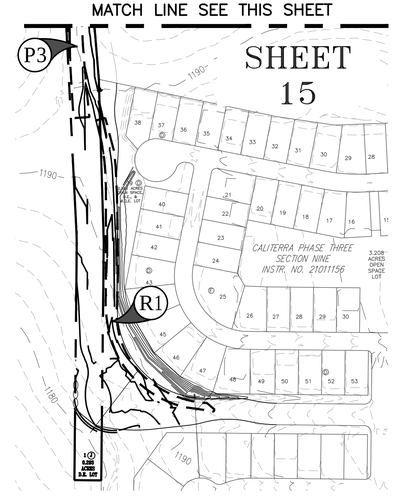




SCALE: 1" = 200'



LEGEND

- EXISTING MINOR CONTOURS
- 305 EXISTING MAJOR CONTOURS
- PROPOSED CONTOURS
- DRAINAGE AREA BOUNDARY
- A1 DRAINAGE AREA NUMBER

DESIGNED BY:	DRAFTED BY:
QD	CIP

REVISION	DATE

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
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North Office: 12129 RR 620 N., Ste. 600 Austin, Texas 78750 www.cbdeng.com

SHEET NAME: OVERALL DRAINAGE PLAN

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 14 OF 162

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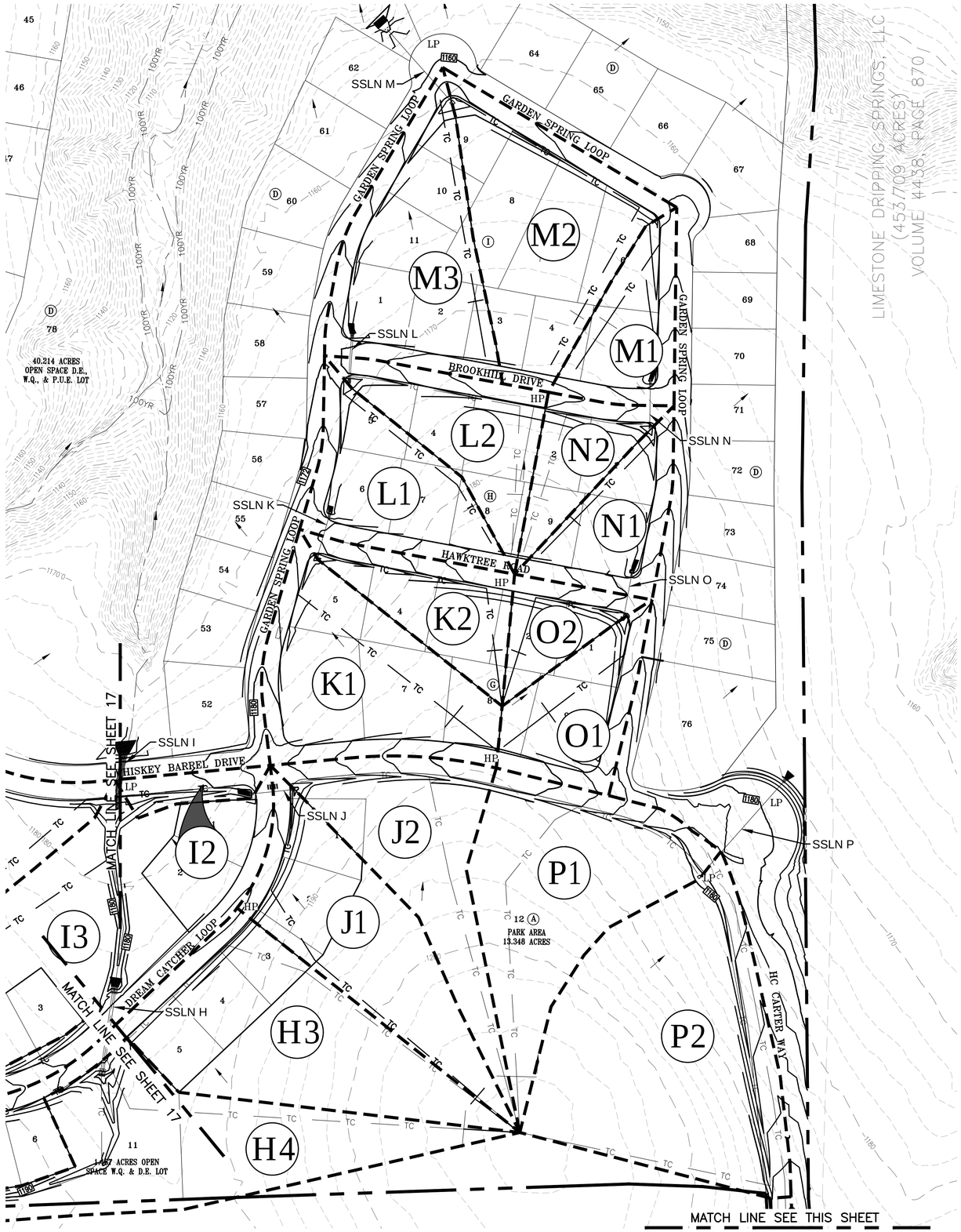

LEGEND

- EXISTING MINOR CONTOURS
- 305 EXISTING MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- 305 PROPOSED MAJOR CONTOURS
- DRAINAGE AREA BOUNDARY
- TC TIME OF CONCENTRATION PATH
- LP \ HP HIGH POINT / LOW POINT
- FLOW ARROW
- A1 DRAINAGE AREA NUMBER

0 100' 200'

SCALE: 1" = 100'

DESIGNED BY:	DRAFTED BY:
QD	CIP

DATE

REVISION

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SHEET NAME: DRAINAGE PLAN (1 OF 3)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusk
6/13/2023

STATE OF TEXAS
QUYNN DUSK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 15 OF 162

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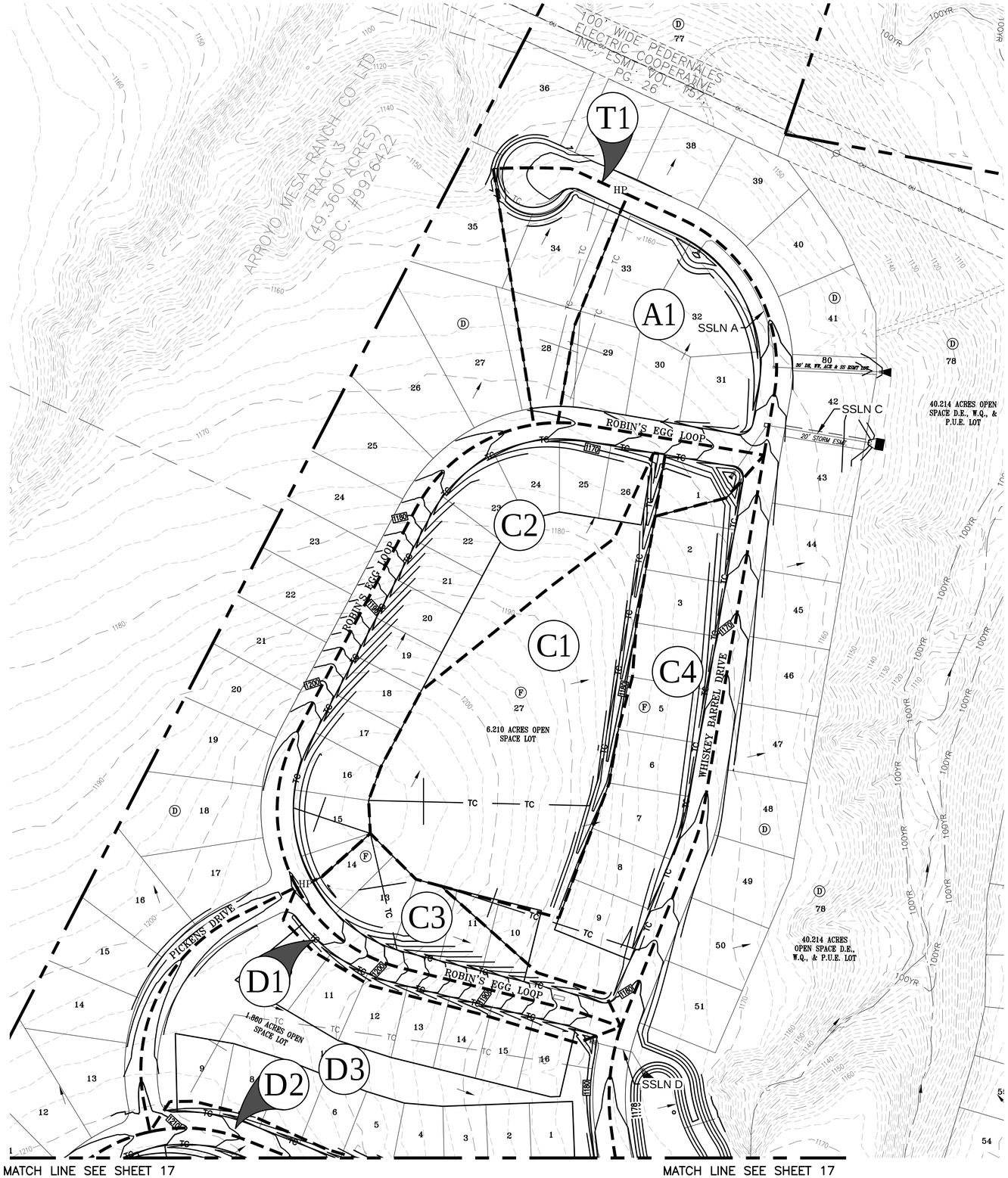

LEGEND

- EXISTING MINOR CONTOURS
- 305 EXISTING MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- 305 PROPOSED MAJOR CONTOURS
- DRAINAGE AREA BOUNDARY
- TC TIME OF CONCENTRATION PATH
- LP \ HP HIGH POINT / LOW POINT
- FLOW ARROW
- A1 DRAINAGE AREA NUMBER

0 100' 200'

SCALE: 1" = 100'

DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
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North Office: 12129 RR 620 N., Ste. 600 Austin, Texas 78750 www.cbdeng.com

SHEET NAME: DRAINAGE PLAN (2 OF 3)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
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PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 16 OF 162

FILE PATH: J:\JOBS\5079\Eng\Construction Plans\5079-DRAINAGE PLAN.dwg - Jun 14, 2023 - 11:47am

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ARROYO MESA RANCH CO LTD TRACT 2 (105.125 ACRES) DOC. #9926422

JOHN COLEMAN HORTON III (105.54 ACRES) VOLUME 4224, PAGE 673

ARROYO MESA RANCH CO LTD TRACT 1 (10.00 AC) DOC. #9926422

JOHN COLEMAN HOR (89.22 ACRES) VOLUME 4224, PAG

DREAM CATCHER LOOP

FLY CATCHER COVE

HICKORY GROVE DRIVE

WHISKEY BARREL DRIVE

PREDATOR PASS

SSLN E

SSLN B

SSLN I

SSLN H

SSLN F

SSLN G

SSLN Q

SSLN S

E1

E2

E3

E4

E5

E6

F1

F2

G1

G2

H1

H2

I1

I2

I3

B1

B2

D2

Q1

S1

S2

61
2.098 ACRES OPEN SPACE LOT

60
9.746 ACRES AMENITY LOT & OPEN SPACE

79
2.168 ACRES OPEN SPACE LOT

1.696 ACRES OPEN SPACE W.Q. & D.E. LOT

1.457 ACRES OPEN SPACE W.Q. & D.E. LOT

0.074 AC. OPEN SPACE LOT

LEGEND

- EXISTING MINOR CONTOURS
- 305 EXISTING MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- 300 PROPOSED MAJOR CONTOURS
- DRAINAGE AREA BOUNDARY
- TC TIME OF CONCENTRATION PATH
- LP \ HP HIGH POINT / LOW POINT
- FLOW ARROW
- A1 DRAINAGE AREA NUMBER

0 100' 200'

SCALE: 1" = 100'

DESIGNED BY: QD

DRAFTED BY: CJP

DATE

REVISION

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Main Office:
5501 West William Cannon Dr.
Austin, Texas 78749
Phone No. (512) 280-5160

SHEET NAME: DRAINAGE PLAN (3 OF 3)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED
PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE June 2023

JOB NUMBER 5079

SHEET 17 OF 162

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INPUT TABLE

Q=CiA D 100 YEAR STORMS
CITY OF AUSTIN JURISDICTION ZONE 1

JOB NAME: The Ranch at Caliterra
JOB NUMBER: 5079

RUNOFF COFFECIENT
reference: City of Austin Drainage Criteria Manual

C_{DEV} referenced from table 2-1 COA Drainage Criteria Manual.

$C_{DEV} = IC_1 + (1-I)C_2$
I = Impervious cover, percent.
A OR C = Asphalt or Concrete
Lots are by area-C.O.A assumes 45% or 55% impervious cover on lots
ENTER THE IMPERVIOUS COVER THAT APPLIED TO YOUR LOT AREA

TIME OF CONCENTRATION, 25 AND 100 YEAR STORM FLOW RATES
reference: City of Austin Drainage Criteria Manual

Description of equation components

L	=	Length of flow
Δelev	=	Change of elevation over L
n	=	Manning's Coefficient
s	=	Average slope across length of flow
P/U	=	Paved or Unpaved
Street Slope	=	Proposed street slope
T_C	=	Time of concentration
V	=	Velocity due to slope.
I_{XX}	=	Average rainfall intensity
Q_{XX}	=	Flow rate for xx year storm

TABLE 2-2 Manning's "n" for overland flow

"n"	Condtion
0.015	Concrete
0.016	Asphalt
0.05	Fallow (no residue)
0.06	Cultivated Soils: Residue Cover <=
0.17	Cultivated Soils: Residue Cover >
0.15	Short-grass prairie
0.24	Dense grasses
0.13	Range (natural)
0.4	Woods: Light Underbrush
0.8	Woods: Dense Underbrush

Note: The Values for I_{xx} are taken from Table 2-5 and equation 2-8 $I = a/(T_C + b)^c$

AREA #	ACRES (acre)	Lot Area (acre)	%IMP	ROW Length (ft)	Pvmt Width (ft)	DEVELOPED (A OR C) Table(2-1)	SHEET FLOW L (ft)	Δelev (ft)	n table(2-2)	SHALLOW CONCENTRATED FLOW L (ft)	Δelev (ft)	P/U	CHANNEL FLOW L (ft)	Street Slope (ft/ft)
A1	3.10	2.44	45%	892	13	A	100	3.5	0.15	257	9.94	U	150	0.005
B1	12.35	7.03	45%	279	16	A	100	2.3	0.15	766	28.13	U	611	0.039
B2	1.79	0.00	45%	346	16	A	100	2.9	0.15	440	12.76	U	60	0.038
C1	5.05	0.50	45%	0	13	A	100	1.2	0.15	308	25.64	U	670	0.022
C2	5.32	3.29	45%	1395	13	A	100	1.2	0.15	50	4.23	U	1253	0.035
C3	1.56	1.05	45%	611	13	A	100	2.4	0.15	120	9.05	U	400	0.045
C4	4.18	2.91	45%	1000	13	A	100	5.8	0.15	285	22.51	U	893	0.019
D1	0.72	0.00	45%	628	13	A	15	0.3	0.15	0	0	U	630	0.043
D2	0.84	0.00	45%	824	13	A	15	0.3	0.15	0	0	U	823	0.032
D3	6.11	2.35	45%	724	16	A	100	2.0	0.15	733	27.87	U	48	0.044
E1	0.83	0.44	45%	510	13	A	100	1.0	0.15	40	3.19	U	486	0.029
E2	2.30	0.58	45%	467	13	A	100	1.2	0.15	405	20.5	U	310	0.010
E3	1.03	0.20	45%	0	13	A	100	2.0	0.15	225	9.65	U	286	0.049
E4	6.83	4.64	45%	1540	13	A	100	1.8	0.15	126	7.51	U	1102	0.015
E5	1.38	0.00	45%	1066	13	A	100	1.0	0.15	40	2.66	U	1042	0.024
E6	0.38	0.00	45%	394	13	A	15	0.3	0.15	0	0	U	400	0.048
F1	0.42	0.00	45%	181	13	A	100	2.2	0.15	73	4.76	U	150	0.050
F2	1.91	0.70	45%	542	13	A	100	2.8	0.15	109	2.51	U	55	0.050
G1	3.24	2.54	0.45	1016	13	A	100	2.74	0.15	50	5.28	U	915	0.030
G2	0.75	0.55	0.45	160	13	A	100	4.35	0.15	350	14.91	U	97	0.042
H1	0.16	0.00	0.45	160	13	A	15	0.3	0.15	0	0	U	97	0.055
H2	1.68	1.28	0.45	567	13	A	100	2.5	0.15	163	7.47	U	300	0.024
H3	2.95	0.98	0.45	324	13	A	100	0.76	0.15	524	22.13	U	287	0.008
H4	3.36	0.00	0.45	166	13	A	100	1.14	0.15	600	22.78	U	40	0.012
I1	1.59	0.00	0.45	1590	16	A	15	0.3	0.15	0	0	U	1591	0.030
I2	0.32	0.00	0.45	253	13	A	15	0.3	0.15	0	0	U	240	0.020
I3	5.34	2.33	0.45	516	13	A	100	1	0.15	750	25.26	U	100	0.012
J1	2.21	0.75	0.45	251	13	A	100	0.76	0.15	524	22.13	U	287	0.008
J2	2.04	0.00	0.45	363	16	A	100	0.76	0.15	550	18.48	U	230	0.034
K1	2.42	1.87	0.45	728	13	A	100	1.6	0.15	350	11.98	U	70	0.054
K2	1.13	0.87	0.45	360	13	A	100	1.6	0.15	111	4.97	U	306	0.030
L1	1.57	1.12	0.45	601	13	A	100	2.7	0.15	280	13.43	U	0	0.000
L2	1.36	1.08	0.45	366	13	A	100	2.4	0.15	160	9.59	U	322	0.018
M1	1.07	0.70	0.45	473	13	A	100	3.4	0.15	170	5.96	U	50	0.025
M2	2.60	2.21	0.45	538	13	A	100	2.6	0.15	220	8.42	U	380	0.010
M3	2.32	1.74	0.45	760	13	A	100	2	0.15	364	12.5	U	0	0.000
N1	1.06	0.68	0.45	486	13	A	100	3.3	0.15	200	14.21	U	0	0.000
N2	0.81	0.66	0.45	196	13	A	100	2.7	0.15	160	9.76	U	150	0.031
O1	1.19	0.82	0.45	462	13	A	100	3	0.15	170	6.45	U	66	0.048
O2	0.66	0.50	0.45	210	13	A	100	1.6	0.15	111	5	U	160	0.029
P1	2.84	0.00	0.45	421	16	A	100	0.76	0.15	534	19.41	U	250	0.031
P2	4.28	0.00	0.45	600	16	A	100	0.8	0.15	355	18.93	U	562	0.015
P3	0.33	0.00	0.45	360	13	A	25	1.5	0.15	0	0	U	360	0.007
Q1	9.20	0.00	0.45	0	13	A	100	1.9	0.15	585	20.67	U	1270	0.024
R1	0.62	0.00	0.45	956	16	A	15	0.3	0.15	0	0	U	730	0.005
S1	7.67	0.00	0.45	1010	13	A	100	1.6	0.15	440	17.74	U	880	0.040
S2	21.15	0.00	0.45	1173	13	A	100	2.64	0.15	800	21.09	U	592	0.023
T1	1.48	1.19	0.45	345	13	A	100	3.26	0.15	278	10.86	U	227	0.025

CALCULATIONS TABLE

AREA #	PERV. (%)	IMPERV. (%)	CONDITION Table(2-1)	ESTIMATED SLOPE s (ft/ft)	SLOPE CONDITION Table(2-1)	C_{25DEV}	C_{100DEV}	$A{*}C_{25DEV}$	$A{*}C_{100DEV}$	Sheet flow s (ft/ft)	T_C (min)	Shallow flow s (ft/ft)	T_C (min)	Channel flow V (ft/s)	T_C (min)	$T_{c\ total}$ (min)	I_{25} (In/Hr)	I_{100} (In/Hr)	Q_{25} (ft^3/s)	Q_{100} (ft^3/s)
A1	56%	44%	GOOD	3.8%	AVERAGE	0.597	0.676	1.85	2.09	0.035	6.9	0.039	1.3	1.7	1.4	10	9.52	12.41	17.6	26.0
B1	74%	26%	GOOD	3.5%	AVERAGE	0.514	0.590	6.35	7.28	0.023	8.1	0.037	4.1	4.9	2.1	14	8.08	10.55	51.4	76.9
B2	93%	7%	GOOD	2.9%	AVERAGE	0.423	0.495	0.76	0.89	0.029	7.4	0.029	2.7	4.8	0.2	10	9.30	12.13	7.1	10.8
C1	96%	4%	GOOD	6.6%	AVERAGE	0.411	0.482	2.07	2.43	0.012	10.5	0.083	1.1	3.7	3.1	15	8.00	10.45	16.6	25.4
C2	64%	36%	GOOD	3.6%	AVERAGE	0.558	0.635	2.96	3.37	0.012	10.6	0.085	0.2	4.6	4.5	15	7.86	10.26	23.3	34.6
C3	58%	42%	GOOD	5.2%	AVERAGE	0.587	0.665	0.92	1.04	0.024	8.0	0.075	0.5	5.2	1.3	10	9.51	12.41	8.7	12.9
C4	62%	38%	GOOD	7.4%	STEEP	0.602	0.679	2.52	2.84	0.058	5.6	0.079	1.0	3.4	4.3	11	9.05	11.80	22.8	33.5
D1	74%	26%	GOOD	2.0%	FLAT	0.439	0.514	0.31	0.37	0.020	1.9	0.000	0.0	5.1	2.1	5	11.79	15.42	3.7	5.7
D2	71%	29%	GOOD	2.0%	FLAT	0.457	0.533	0.38	0.45	0.020	1.9	0.000	0.0	4.4	3.1	5	11.79	15.42	4.5	6.9
D3	78%	22%	GOOD	3.6%	AVERAGE	0.492	0.566	3.01	3.46	0.020	8.6	0.038	3.9	5.2	0.2	13	8.54	11.14	25.7	38.5
E1	57%	43%	GOOD	3.0%	AVERAGE	0.590	0.669	0.49	0.55	0.010	11.4	0.080	0.1	4.2	1.9	13	8.32	10.86	4.1	6.0
E2	83%	17%	GOOD	4.3%	AVERAGE	0.472	0.546	1.09	1.25	0.012	10.7	0.051	1.9	2.5	2.1	15	8.00	10.45	8.7	13.1
E3	91%	9%	GOOD	3.6%	AVERAGE	0.431	0.503	0.44	0.52	0.020	8.6	0.043	1.1	5.4	0.9	11	9.18	11.97	4.1	6.2
E4	63%	37%	GOOD	4.1%	AVERAGE	0.565	0.643	3.86	4.39	0.018	9.0	0.060	0.5	3.0	6.1	16	7.78	10.16	30.1	44.6
E5	77%	23%	GOOD	2.6%	AVERAGE	0.498	0.573	0.69	0.79	0.010	11.4	0.067	0.2	3.8	4.6	16	7.67	10.02	5.3	7.9
E6	69%	31%	GOOD	2.0%	FLAT	0.464	0.540	0.18	0.21	0.020	1.9	0.000	0.0	5.4	1.2	5	11.79	15.42	2.1	3.2
F1	87%	13%	GOOD	4.0%	AVERAGE	0.450	0.522	0.19	0.22	0.022	8.3	0.065	0.3	5.5	0.5	9	9.76	12.73	1.9	2.8
F2	75%	25%	GOOD	2.5%	AVERAGE	0.507	0.582	0.97	1.11	0.028	7.6	0.023	0.7	5.5	0.2	8	9.99	13.03	9.7	14.5
G1	55%	45%	GOOD	5.3%	AVERAGE	0.600	0.679	1.94	2.20	0.027	7.6	0.106	0.2	4.3	3.6	11	8.95	11.67	17.4	25.6
G2	61%	39%	GOOD	4.3%	AVERAGE	0.575	0.653	0.43	0.49	0.044	6.3	0.043	1.8	5.1	0.3	8	10.03	13.09	4.3	6.4
H1	71%	29%	GOOD	2.0%	FLAT	0.456	0.532	0.07	0.09	0.020	1.9	0.000	0.0	5.8	0.3	5	11.79	15.42	0.9	1.3
H2	56%	44%	GOOD	3.8%	AVERAGE	0.599	0.677	1.01	1.14	0.025	7.9	0.046	0.8	3.8	1.3	10	9.41	12.27	9.5	14.0
H3	82%	18%	GOOD	3.7%	AVERAGE	0.475	0.549	1.40	1.62	0.008	12.7	0.042	2.6	2.3	2.1	17	7.38	9.65	10.4	15.6
H4	99%	1%	GOOD	3.4%	AVERAGE	0.397	0.467	1.33	1.57	0.011	10.8	0.038	3.2	2.7	0.2	14	8.11	10.59	10.8	16.6
I1	63%	37%	GOOD	2.0%	FLAT	0.499	0.576	0.79	0.92	0.020	1.9	0.000	0.0	4.3	6.2	8	10.17	13.28	8.1	12.2
I2	77%	23%	GOOD	2.0%	FLAT	0.424	0.498	0.14	0.16	0.020	1.9	0.000	0.0	3.5	1.1	5	11.79	15.42	1.6	2.5
I3	78%	22%	GOOD	3.1%	AVERAGE	0.496	0.570	2.65	3.04	0.010	11.4	0.034	4.2	2.7	0.6	16	7.64	9.99	20.2	30.4
J1	81%	19%	GOOD	3.7%	AVERAGE	0.477	0.551	1.06	1.22	0.008	12.7	0.042	2.6	2.3	2.1	17	7.38	9.65	7.8	11.8
J2	93%	7%	GOOD	3.0%	AVERAGE	0.421	0.492	0.86	1.00	0.008	12.7	0.034	3.1	4.5	0.8	17	7.55	9.87	6.5	9.9
K1	56%	44%	GOOD	3.0%	AVERAGE	0.596	0.675	1.44	1.63	0.016	9.4	0.034	2.0	5.7	0.2	12	8.86	11.56	12.8	18.9
K2	56%	44%	GOOD	3.1%	AVERAGE	0.597	0.676	0.68	0.76	0.016	9.4	0.045	0.5	4.3	1.2	11	9.00	11.74	6.1	9.0
L1	57%	43%	GOOD	4.2%	AVERAGE	0.594	0.673	0.93	1.06	0.027	7.6	0.048	1.3	0.0	0.0	9	9.79	12.78	9.1	13.5
L2	56%	44%	GOOD	4.6%	AVERAGE	0.596	0.675	0.81	0.91	0.024	8.0	0.060	0.7	3.3	1.6	10	9.29	12.11	7.5	11.1
M1	57%	43%	GOOD	3.5%	AVERAGE	0.590	0.668	0.63	0.72	0.034	7.0	0.035	0.9	3.9	0.2	8	10.15	13.24	6.4	9.5
M2	55%	45%	GOOD	3.4%	AVERAGE	0.599	0.678	1.56	1.76	0.026	7.8	0.038	1.2	2.5	2.6	11	8.89	11.60	13.8	20.4
M3	56%	44%	GOOD	3.1%	AVERAGE	0.595	0.673	1.38	1.56	0.020	8.6	0.034	2.0	0.0	0.0	11	9.17	11.96	12.6	18.7
N1	57%	43%	GOOD	5.8%	AVERAGE	0.591	0.669	0.63	0.71	0.033	7.1	0.071	0.8	0.0	0.0	8	10.28	13.41	6.4	9.5
N2	56%	44%	GOOD	4.8%	AVERAGE	0.595	0.674	0.48	0.55	0.027	7.6	0.061	0.7	4.3	0.6	9	9.82	12.82	4.8	7.0
O1	58%	42%	GOOD	3.5%	AVERAGE	0.590	0.668	0.70	0.80	0.030	7.3	0.038	0.9	5.4	0.2	8	10.01	13.06	7.1	10.4
O2	56%	44%	GOOD	3.1%	AVERAGE	0.595	0.673	0.39	0.44	0.016	9.4	0.045	0.5	4.2	0.6	11	9.18	11.98	3.6	5.3
P1	95%	5%	GOOD	3.2%	AVERAGE	0.416	0.487	1.18	1.38	0.008	12.7	0.036	2.9	4.4	1.0	17	7.57	9.89	8.9	13.7
P2	95%	5%	GOOD	4.3%	AVERAGE	0.414	0.485	1.77	2.08	0.008	12.4	0.053	1.6	3.0	3.1	17	7.45	9.74	13.2	20.2
P3	68%	32%	GOOD	6.0%	AVERAGE	0.542	0.619	0.18	0.21	0.060	1.8	0.000	0.0	2.1	2.9	5	11.79	15.42	2.1	3.2
Q1	100%	0%	GOOD	3.3%	AVERAGE	0.390	0.460	3.59	4.23	0.019	8.8	0.035	3.2	3.8	5.6	18	7.35	9.62	26.4	40.7
R1	43%	57%	GOOD	2.0%	FLAT	0.614	0.695	0.38	0.43	0.020	1.9	0.000	0.0	1.8	6.7	9	9.96	12.99	3.8	5.6
S1	96%	4%	GOOD	3.6%	AVERAGE	0.408	0.479	3.13	3.68	0.016	9.4	0.040	2.3	4.9	3.0	15	8.00	10.45	25.1	38.4
S2	98%	2%	GOOD	2.6%	AVERAGE	0.398	0.468	8.41	9.90	0.026	7.7	0.026	5.1	3.8	2.6	15	7.82	10.22	65.8	101.2
T1	57%	43%	GOOD	3.7%	AVERAGE	0.593	0.672	0.88	0.99	0.033	7.1	0.039	1.5	3.9	1.0	10	9.58	12.49	8.4	12.4

DRAINAGE AREA SUMMARY TABLE

Area No.	Area (Acre)	T_C (Min.)	Perv. (%)	Imperv. (%)	C 25	C 100	I_{25} In/Hr	I_{100} In/Hr	Q_{25} CFS	Q_{100} CFS
A1	3.10	10	56	44	0.60	0.68	9.52	12.41	17.6	26.0
B1	12.35	14	74	26	0.51	0.59	8.08	10.55	51.4	76.9
B2	1.79	10	93	7	0.42	0.49	9.30	12.13	7.1	10.8
C1	5.05	15	96	4	0.41	0.48	8.00	10.45	16.6	25.4
C2	5.32	15	64	36	0.56	0.63	7.86	10.26	23.3	34.6
C3	1.56	10	58	42	0.59	0.67	9.51	12.41	8.7	12.9
C4	4.18	11	62	38	0.60	0.68	9.05	11.80	22.8	33.5
D1	0.72	5	74	26	0.44	0.51	11.79	15.42	3.7	5.7
D2	0.84	5	71	29	0.46	0.53	11.79	15.42	4.5	6.9
D3	6.11	13	78	22	0.49	0.57	8.54	11.14	25.7	38.5
E1	0.83	13	57	43	0.59	0.67	8.32	10.86	4.1	6.0
E2	2.30	15	83	17	0.47	0.55	8.00	10.45	8.7	13.1
E3	1.03	11	91	9	0.43	0.50	9.18	11.97	4.1	6.2
E4	6.83	16	63	37	0.57	0.64	7.78	10.16	30.1	44.6
E5	1.38	16	77	23	0.50	0.57	7.67	10.02	5.3	7.9
E6	0.38	5	69	31	0.46	0.54	11.79	15.42	2.1	3.2
F1	0.42	9	87	13	0.45	0.52	9.76	12.73	1.9	2.8
F2	1.91	8	75	25	0.51	0.58	9.99	13.03	9.7	14.5
G1	3.24	11	55	45	0.60	0.68	8.95	11.67	17.4	25.6
G2	0.75	8	61	39	0.58	0.65	10.03	13.09	4.3	6.4
H1	0.16	5	71	29	0.46	0.53	11.79	15.42	0.9	1.3
H2	1.68	10	56	44	0.60	0.68	9.41	12.27	9.5	14.0
H3	2.95	17	82	18	0.48	0.55	7.38	9.65	10.4	15.6
H4	3.36	14	99	1	0.40	0.47	8.11	10.59	10.8	16.6
I1	1.59	8	63	37	0.50	0.58	10.17	13.28	8.1	12.2
I2	0.32	5	77	23	0.42	0.50	11.79	15.42	1.6	2.5
I3	5.34	16	78	22	0.50	0.57	7.64	9.99	20.2	30.4
J1	2.21	17	81	19	0.48	0.55	7.38	9.65	7.8	11.8
J2	2.04	17	93	7	0.42	0.49	7.55	9.87	6.5	9.9
K1	2.42	12	56	44	0.60	0.67	8.86	11.56	12.8	18.9
K2	1.13	11	56	44	0.60	0.68	9.00	11.74	6.1	9.0
L1	1.57	9	57	43	0.59	0.67	9.79	12.78	9.1	13.5
L2	1.36	10	56	44	0.60	0.67	9.29	12.11	7.5	11.1
M1	1.07	8	57	43	0.59	0.67	10.15	13.24	6.4	9.5
M2	2.60	11	55	45	0.60	0.68	8.89	11.60	13.8	20.4
M3	2.32	11	56	44	0.59	0.67	9.17	11.96	12.6	18.7
N1	1.06	8	57	43	0.59	0.67	10.28	13.41	6.4	9.5
N2	0.81	9	56	44	0.59	0.67	9.82	12.82	4.8	7.0
O1	1.19	8	58	42	0.59	0.67	10.01	13.06	7.1	10.4
O2	0.66	11	56	44	0.59	0.67	9.18	11.98	3.6	5.3
P1	2.84	17	95	5	0.42	0.49	7.57	9.89	8.9	13.7
P2	4.28	17	95	5	0.41	0.49	7.45	9.74	13.2	20.2
P3	0.33	5	68	32	0.54	0.62	11.79	15.42	2.1	3.2
Q1	9.20	18	100	0	0.39	0.46	7.35	9.62	26.4	40.7
R1	0.62	9	43	57	0.61	0.70	9.96	12.99	3.8	5.6
S1	7.67	15	96	4	0.41	0.48	8.00	10.45	25.1	38.4
S2	21.15	15	98	2	0.40	0.47	7.82	10.22	65.8	101.2
T1	1.48	10	57	43	0.59	0.67	9.58	12.49	8.4	12.4

COMBINED AREAS TABLE

AREAS COMBINED	T_C (Min.)	$C_{25}{*}A$	$C_{100}{*}A$	I_{25} In/Hr	I_{100} In/Hr	Q_{25} CFS	Q_{100} CFS
C1-C2	15	5.04	5.81	7.92	10.34	39.9	60.0
C3-C4	11	3.43	3.88	9.05	11.80	31.1	45.8
C1-C4	15	8.47	9.69	7.92	10.34	67.1	100.2
D2-D3	13	3.39	3.91	8.44	11.01	28.6	43.0
D1-D3	13	3.70	4.28	8.44	11.01	31.3	47.1
E1-E2	15	1.57	1.81	7.92	10.34	12.5	18.7
E1-E3	15	2.02	2.33	7.92	10.34	16.0	24.1
E1-E4	16	5.88	6.72	7.69	10.04	45.2	67.5
E1-E5	16	6.57	7.51	7.69	10.04	50.5	75.4
E1-E6	16	6.75	7.72	7.69	10.04	51.9	77.5
B1-B2, E1-E6	16	13.86	15.89	7.69	10.04	106.6	159.6
F1-F2	9	1.16	1.34	9.78	12.75	11.4	17.0
G1-G2	11	2.37	2.69	9.05	11.80	21.5	31.7
G1-G2, H1	11	2.45	2.77	9.05	11.80	22.1	32.7
G1-G2, H1-H2	11	3.45	3.91	9.05	11.80	31.3	46.2
Q1, H4	18	4.92	5.80	7.27	9.51	35.8	55.2
G1-G2, H1-H4, Q1	18	9.78	11.33	7.27	9.51	71.1	107.8
G1-G2, H1-H4, Q1, I1, I3	18	13.22	15.29	7.27	9.51	96.1	145.4
J1-J2	17	1.92	2.22	7.47	9.77	14.3	21.7
I2, J1-J2	17	2.05	2.38	7.47	9.77	15.3	23.3
G1-G2, H1-H4, I1-I3, J1-J2, Q1	18	15.27	17.68	7.27	9.51	111.0	168.1
K1-K2	12	2.12	2.40	8.73	11.39	18.5	27.3
K1-K2, L1	12	3.05	3.46	8.73	11.39	26.6	39.4
K1-K2, L1-L2	12	3.86	4.37	8.73	11.39	33.7	49.8
K1-K2, L1-L2, M3	12	5.24	5.93	8.73	11.39	45.7	67.6
O1-O2	11	1.10	1.24	9.05	11.80	9.9	14.7
N1, O1-O2	11	1.72	1.95	9.05	11.80	15.6	23.0
N1-N2, O1-O2	11	2.21	2.50	9.05	11.80	20.0	29.5
M1, N1-N2, O1-O2	11	2.84	3.22	9.05	11.80	25.7	38.0
M1-M2, N1-N2, O1-O2	11	4.40	4.98	9.05	11.80	39.8	58.8
K1-K2, L1-L2, M1-M3, N1-N2, O1-O2	12	9.64	10.91	8.73	11.39	84.1	124.3
P1-P2	17	2.95	3.46	7.47	9.77	22.1	33.8
P1-P3	17	3.13	3.66	7.47	9.77	23.4	35.8
S1-S2	15	11.55	13.58	7.92	10.34	91.4	140.4

24 HR RAINFALL PRECIPITATION DEPTHS SUMMARY TABLE

EVENT	INCHES
2-YEAR	4.08
10-YEAR	6.77
25-YEAR	8.87
100-YEAR	13.00

FILE PATH:J:\AC3D\5079\dwg\Construction Plans\5079-DRAINAGE PLAN.dwg - Jun 14, 2023 - 11:47am

DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

Carlson, Brigance & Doering, Inc.
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FIRM ID #F3791
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SHEET NAME: DRAINAGE CALCULATIONS
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC. ID# F3791

DATE June 2023
JOB NUMBER 5079
SHEET 18 OF 162

BASIN SUMMARY TABLE & BMP REMOVAL					
BMP SELECTED	DRAINAGE AREA (AC.)	IMP. COVER (AC.)	IMP. COVER (%)	TSS AVAILABLE (LBS.)	TSS REMOVED (LBS.)
ENGINEERED & NATURAL FILTER STRIPS	79.47	24.60	30.95%	24,704	24,704
BATCH DETENTION POND A	34.88	7.85	22.49%	8,591	8,591
		TOTAL LBS. TSS REMOVED =			33,295
		TOTAL LBS. TSS REQUIRED =			31,975

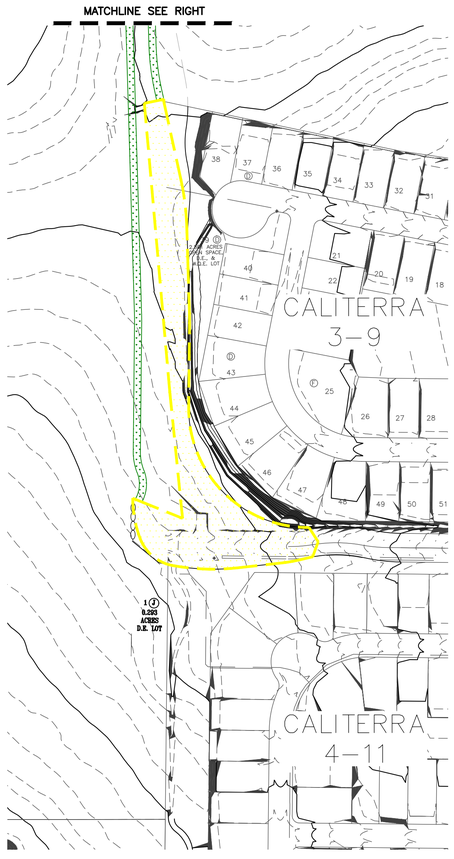
NOTE: ENGINEERED VEGETATED FILTER STRIPS WILL BE UTILIZED IN SERIES WITH GRASSY SWALES WHERE APPLICABLE. LOAD REMOVAL FOR THE GRASSY SWALES IS NOT INCLUDED IN ABOVE CALCULATIONS.

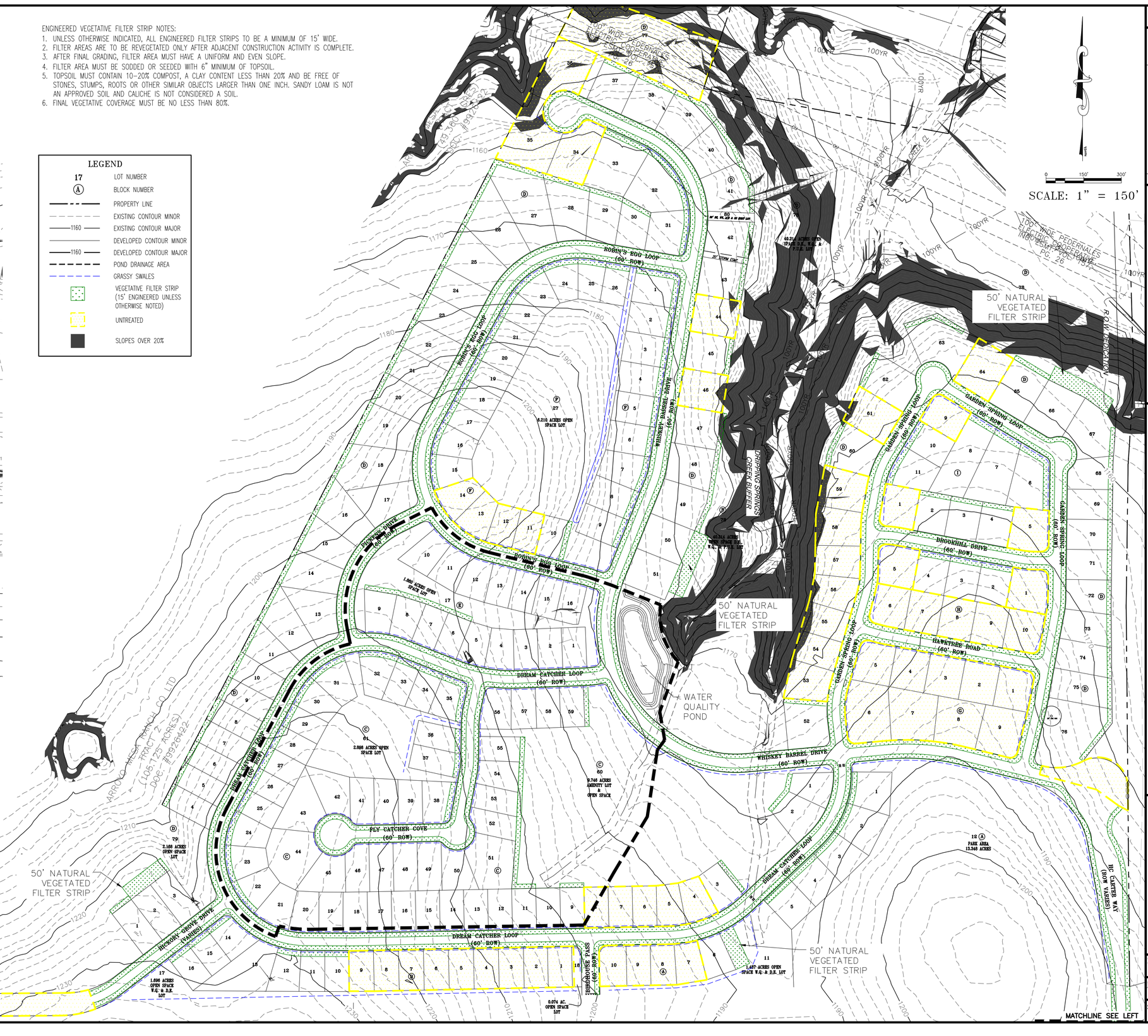
ENGINEERED VEGETATIVE FILTER STRIP NOTES:

1. UNLESS OTHERWISE INDICATED, ALL ENGINEERED FILTER STRIPS TO BE A MINIMUM OF 15' WIDE.
2. FILTER AREAS ARE TO BE REVEGETATED ONLY AFTER ADJACENT CONSTRUCTION ACTIVITY IS COMPLETE.
3. AFTER FINAL GRADING, FILTER AREA MUST HAVE A UNIFORM AND EVEN SLOPE.
4. FILTER AREA MUST BE SODDED OR SEEDED WITH 6" MINIMUM OF TOPSOIL.
5. TOPSOIL MUST CONTAIN 10-20% COMPOST, A CLAY CONTENT LESS THAN 20% AND BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN ONE INCH. SANDY LOAM IS NOT AN APPROVED SOIL AND CALICHE IS NOT CONSIDERED A SOIL.
6. FINAL VEGETATIVE COVERAGE MUST BE NO LESS THAN 80%.

LEGEND

- 17 — LOT NUMBER
- (A) — BLOCK NUMBER
- PROPERTY LINE
- EXISTING CONTOUR MINOR
- 1160 — EXISTING CONTOUR MAJOR
- DEVELOPED CONTOUR MINOR
- 1160 — DEVELOPED CONTOUR MAJOR
- POND DRAINAGE AREA
- GRASSY SWALES
- VEGETATIVE FILTER STRIP (15' ENGINEERED UNLESS OTHERWISE NOTED)
- UNTREATED
- SLOPES OVER 20%





DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE

REVISION

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SHEET NAME: TCEQ BMP PLAN

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS — QUYNN DUSEK — 130416 — LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC. ID# F3791

DATE: June 2023

JOB NUMBER: 5079

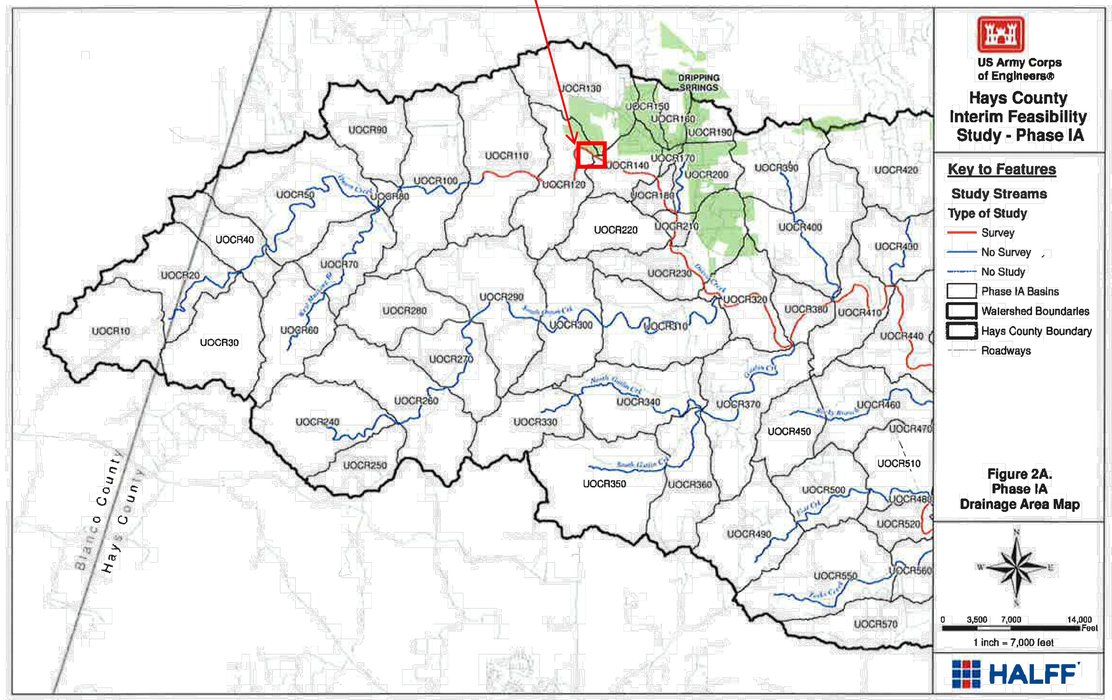
SHEET: 19 OF 162

FILE PATH: I:\ACD\5079\Eng\Construction Plans\5079-BMP Map.dwg - Jun 14, 2023 - 1:14:7am

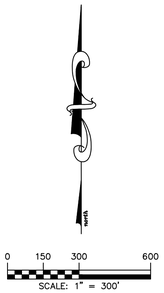
NORTHERN TRIBUTARY EXISTING HYDROLOGY

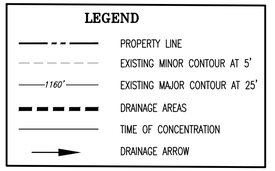
The Ranch at Caliterra

UOCR121-D4, D4a, D4b, D8
UOCR120_131-D6, D7
UOCR141-D1, D1b, D3, D5



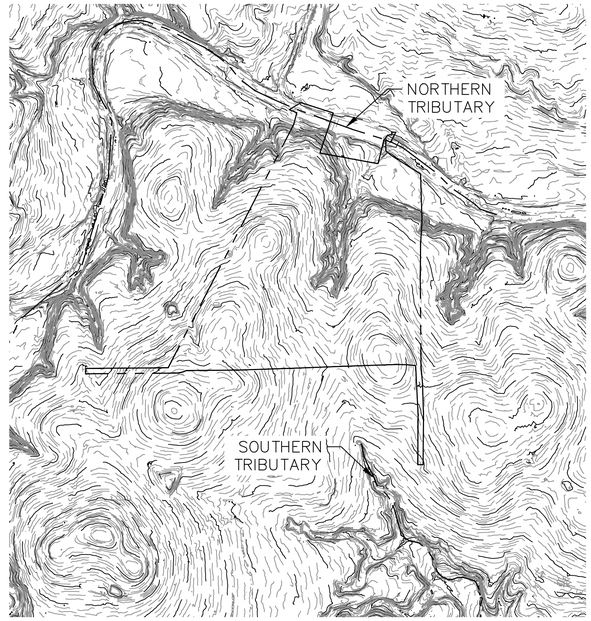
NORTHERN DRAINAGE AREA (by Halff & Associates Watershed Study)							
EXISTING BASIN NAME	AREA		CURVE NUMBER	IMP. COVER	INITIAL ABSTRACTION	LAG	PEAKING COEFFICIENT
	AC	SQ MI			IN	HR	
UOCR120	1,712.00	2.675	81	5%	0.5	0.92	0.75
UOCR130	2,053.76	3.209	81	20%	0.5	0.87	0.75
UOCR140	888.32	1.388	80	15%	0.5	0.61	0.75



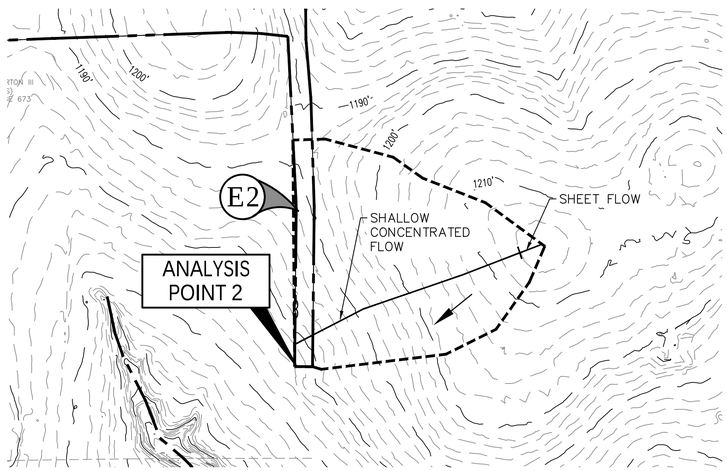


NOTE: HALFF STUDY PROVIDES DRAINAGE AREAS USED FOR ANALYSIS OF NORTHERN TRIBUTARY.

DRAINAGE TRIBUTARY KEY MAP



SOUTHERN TRIBUTARY EXISTING HYDROLOGY



TIME OF CONCENTRATION CALCULATIONS - SCS METHOD																		
Drainage Area EXISTING	Sheet Flow Tc = (0.007 x (n x L)^.8) / (P2^0.5 x S^0.4)					Shallow Concentrated Flow Tc = L / (60V)					Channel Flow Tc = L / (60V)					Time of Concentration	Lag Time
	P2 (in)	n	L (ft)	S (ft/ft)	Tc (min)	Paved/ Unpaved	L (ft)	S (ft/ft)	V (fps)	Tc (min)	n	L (ft)	S (ft/ft)	V (fps)	Tc (min)	Tc (min)	TL (min)
E2	4.07	0.15	100	1.64%	9.41	U	1,022	3.51%	3.024	5.63	0.035	0	0.00%	5.0	0.00	15.04	9.02

DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

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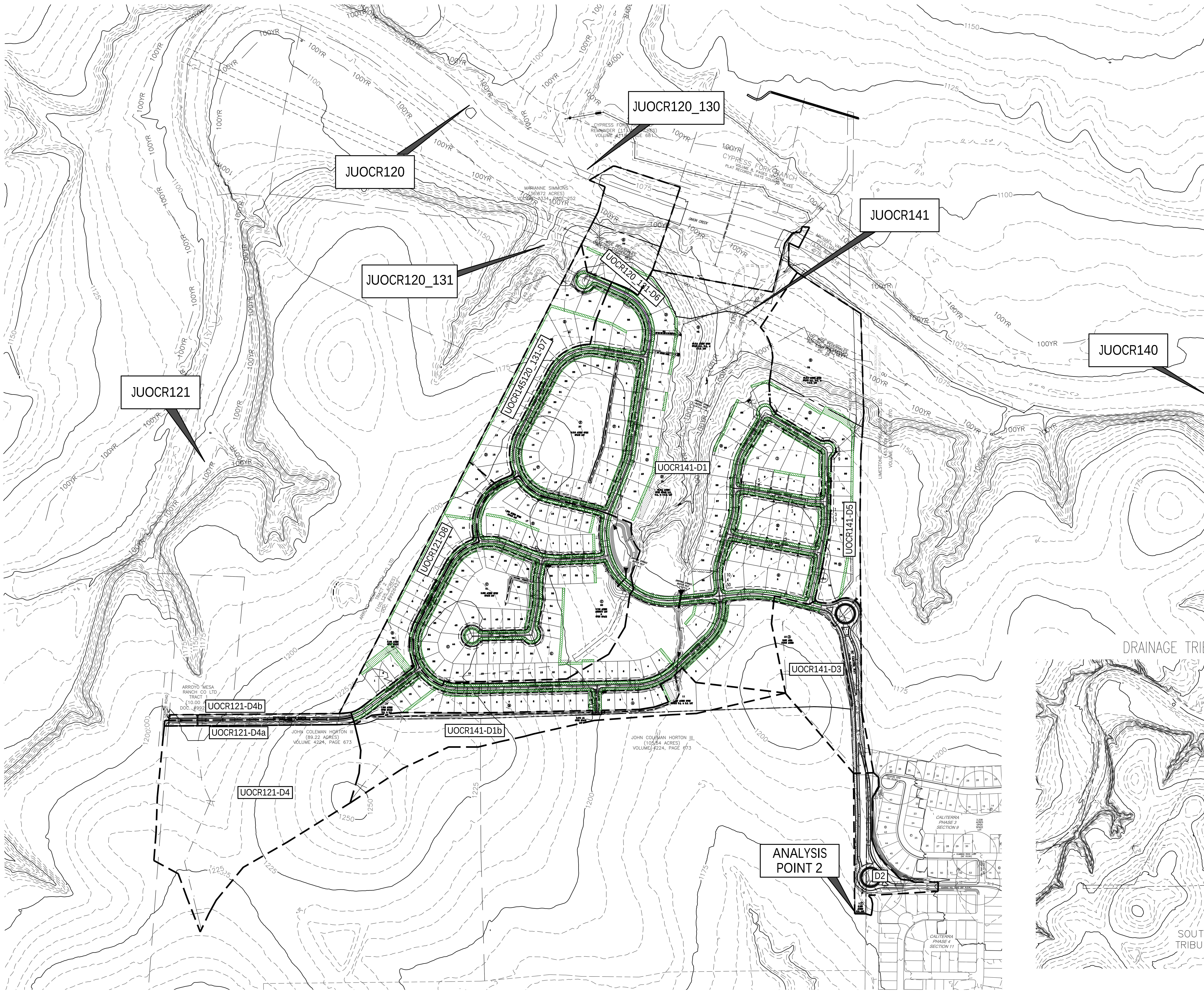
SHEET NAME: EXISTING HYDROLOGY
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023
STATE OF TEXAS · QUYNN DUSEK · 130416 · LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC. ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 20 OF 162



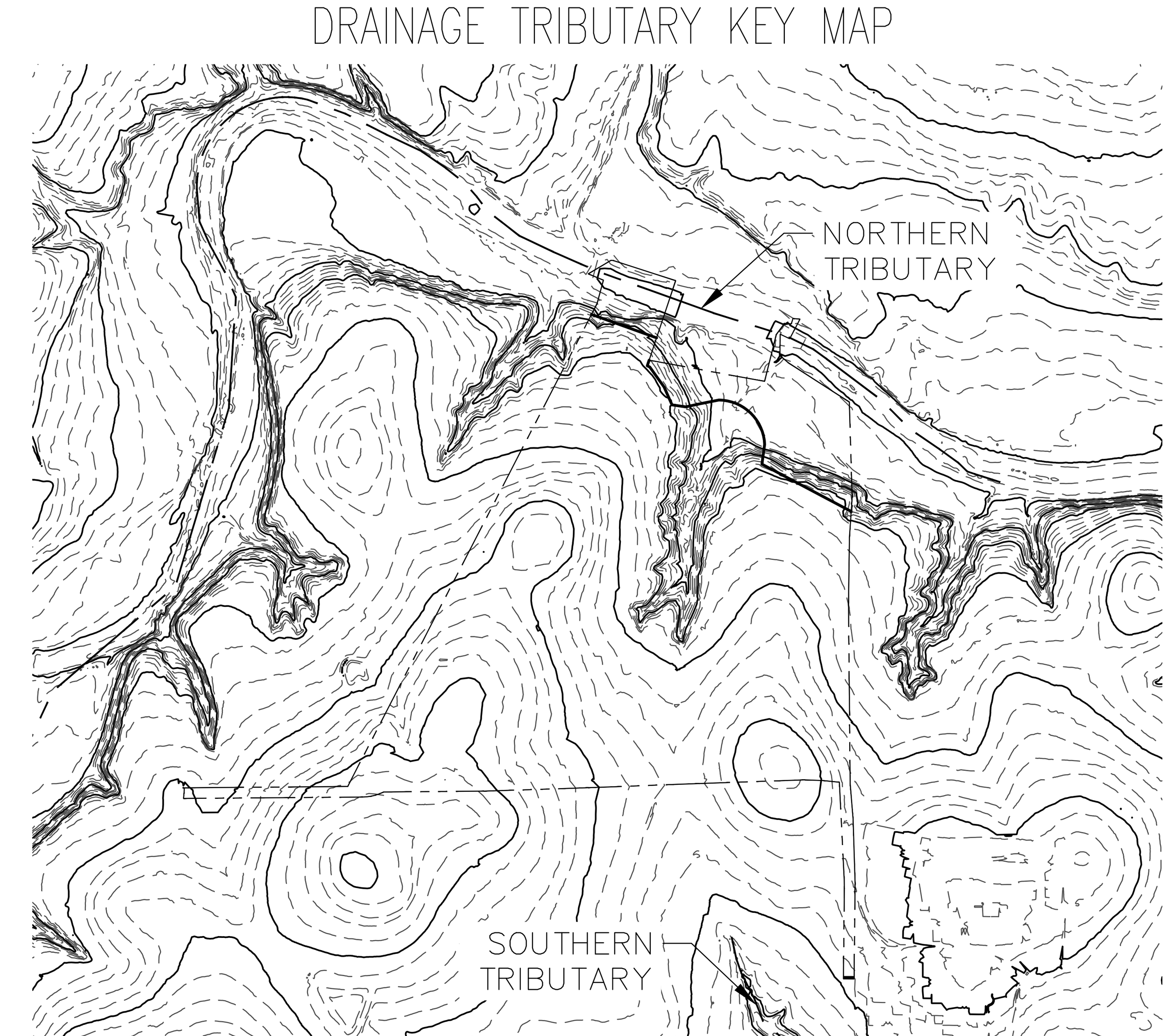
LEGEND

Symbol	Description
17	LOT NUMBER
(A)	BLOCK NUMBER
— · —	PROPERTY LINE
- - - -	EXISTING MINOR CONTOUR AT 5'
—1160—	EXISTING MAJOR CONTOUR AT 25'
——	PROPOSED CONTOURS AT 5'
— — —	DRAINAGE AREAS
—. —. —	TIME OF CONCENTRATION
UOCR141–D1	DRAINAGE AREA ID

Existing and Developed Flow Summary Table

EVENT	EXISTING	DEVELOPED
JUNCTION JUOCR140		
2-YR	940.8	942.3
10-YR	11711.3	11707.0
25-YR	22606.5	22592.3
100-YR	40577.7	40542.4
JUNCTION JUOCR120_130		
2-YR	934.9	935.4
10-YR	11676.5	11674.9
25-YR	22549	22542.2
100-YR	40363.2	40363.2
JUNCTION JUOCR120		
2-YR	881.1	881.3
10-YR	11253.2	11250.1
25-YR	21738.2	21729.3
100-YR	38890.1	38890.1
ANALYSIS POINT 2		
2-YR	32.9	13.6
10-YR	80	29.5
25-YR	109.3	39.1
100-YR	155.6	54.4

DRAINAGE TRIBUTARY KEY MAP



DESIGNED BY: QD
DRAFTED BY: CJP

DATE	REVISION

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SHEET NAME: DEVELOPED HYDROLOGY

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

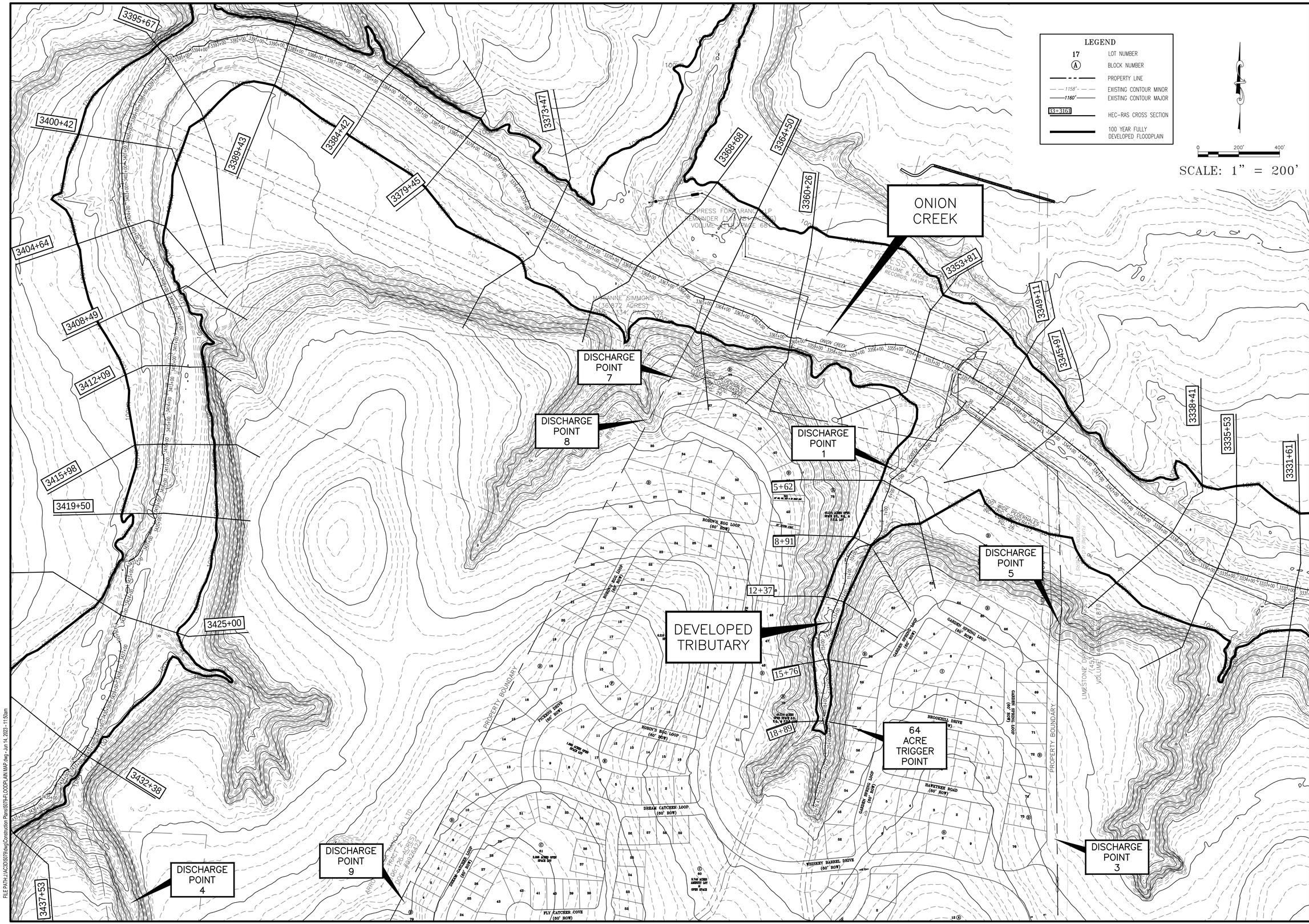
Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC. ID# F3791

DATE June 2023

JOB NUMBER 5079

SHEET 21 OF 162



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DESIGNED BY: QD | DRAFTED BY: CP

DATE | REVISION

SHEET NAME: FLOODPLAIN MAP

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: May 2023

JOB NUMBER: 5079

SHEET: 22 OF 162

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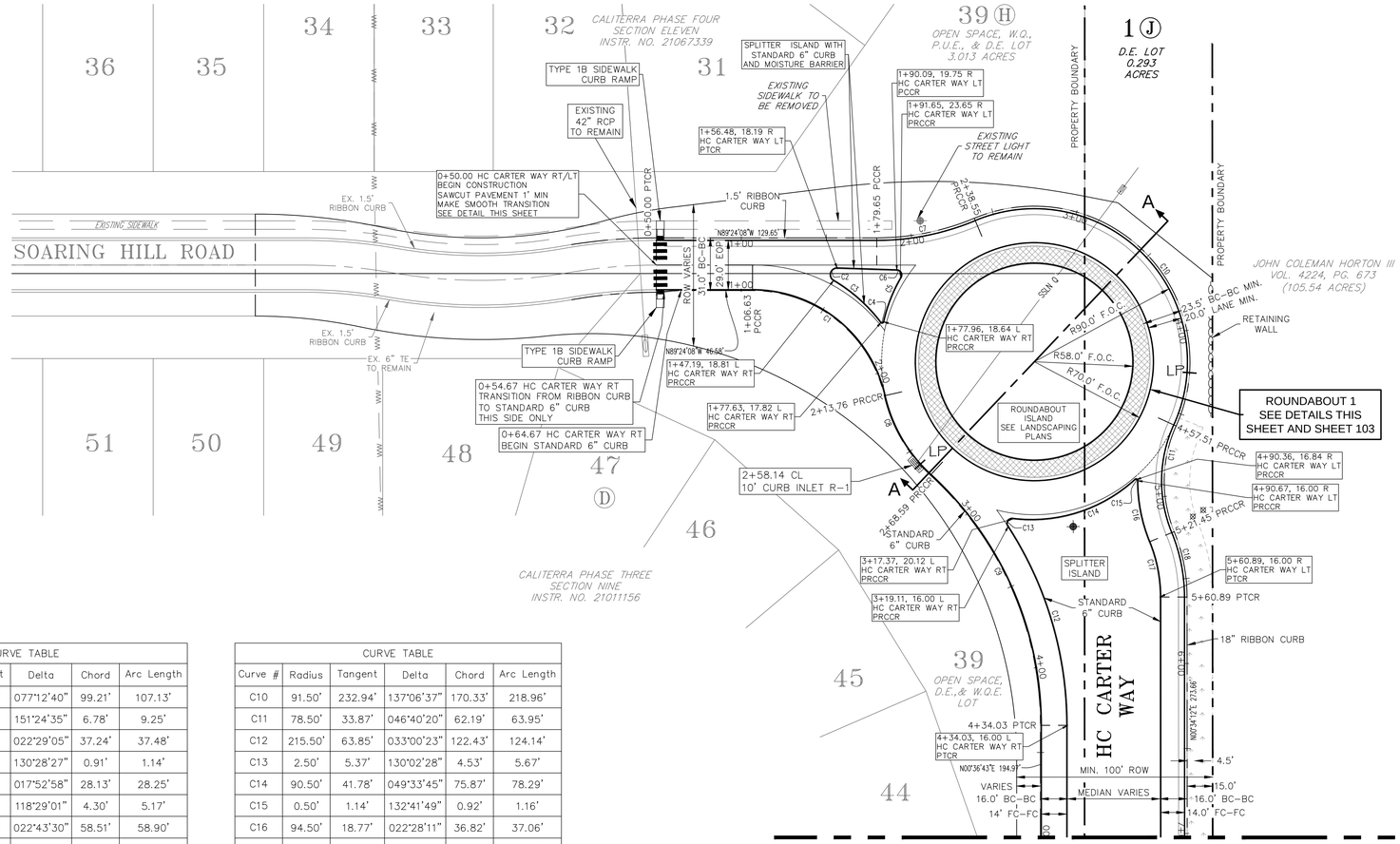
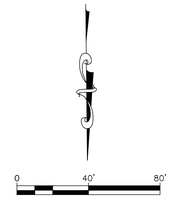


MATCH LINE STA. 7+02.28 HC CARTER WAY LT
MATCH LINE STA. 5+00.00 HC CARTER WAY RT
SEE SHEET 25

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER



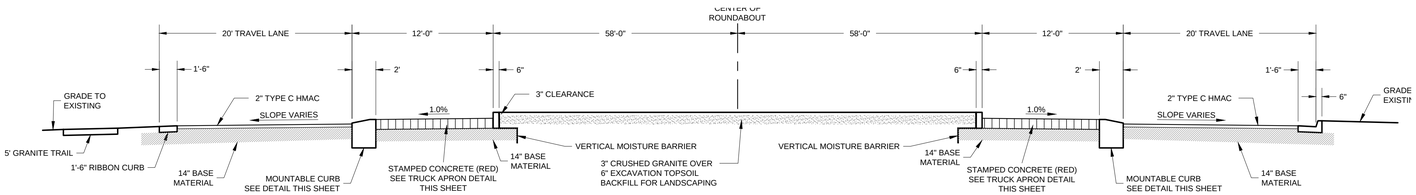
SCALE: 1" = 40'

NOTES:

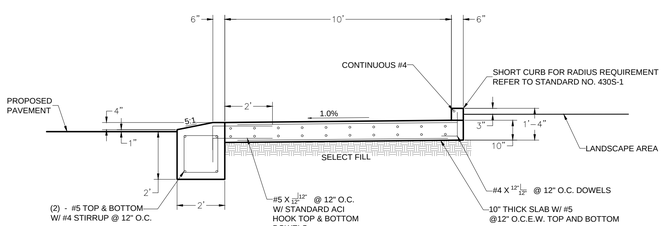
1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. HC CARTER WAY TRANSITIONS TO A 6" STANDARD CURB ON ONE SIDE AT STATION 0+50.00 THEN TRANSITIONS BACK TO RIBBON CURB AT STATION 10+30.00.

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C1	79.50'	63.48'	077°12'40"	99.21'	107.13'
C2	3.50'	13.74'	151°24'35"	6.78'	9.25'
C3	95.50'	18.98'	022°29'05"	37.24'	37.48'
C4	0.50'	1.08'	130°28'27"	0.91'	1.14'
C5	90.50'	14.24'	017°52'58"	28.13'	28.25'
C6	2.50'	4.20'	118°29'01"	4.30'	5.17'
C7	148.50'	29.84'	022°43'30"	58.51'	58.90'
C8	90.50'	28.28'	034°42'43"	53.99'	54.83'
C9	199.50'	87.81'	047°30'53"	160.74'	165.44'

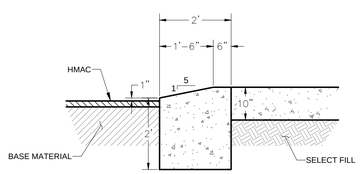
CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C10	91.50'	232.94'	137°06'37"	170.33'	218.96'
C11	78.50'	33.87'	046°40'20"	62.19'	63.95'
C12	215.50'	63.85'	033°00'23"	122.43'	124.14'
C13	2.50'	5.37'	130°02'28"	4.53'	5.67'
C14	90.50'	41.78'	049°33'45"	75.87'	78.29'
C15	0.50'	1.14'	132°41'49"	0.92'	1.16'
C16	94.50'	18.77'	022°28'11"	36.82'	37.06'
C17	85.50'	16.82'	022°15'31"	33.01'	33.22'
C18	101.50'	19.97'	022°15'31"	39.18'	39.43'



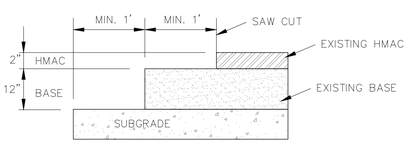
PROPOSED ROUNDABOUT
CROSS-SECTION A-A
SCALE: N.T.S



TRUCK APRON DETAIL
N.T.S.

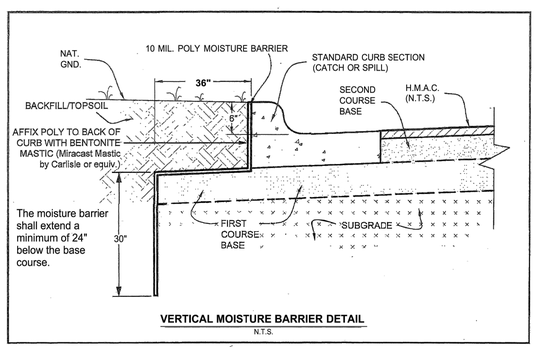


MOUNTABLE CURB DETAIL
N.T.S.



EXISTING TO PROPOSED JOINT
N.T.S.

NOTES:
1. STREET SECTION IS LOCATED ON GENERAL NOTES SHEET 2
2. DESIGN SPEED = 30 MPH
3. K VALUES = 30 FOR CREST, 40 FOR SAG MINIMUM



VERTICAL MOISTURE BARRIER DETAIL
N.T.S.

DESIGNED BY: QD
DRAFTED BY: CJP

DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr., Austin, Texas 78749, Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600, Austin, Texas 78750, www.cbdeng.com

SHEET NAME: HC CARTER WAY PLAN LT (0+00-7+02.28) RT (0+00-5+00)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

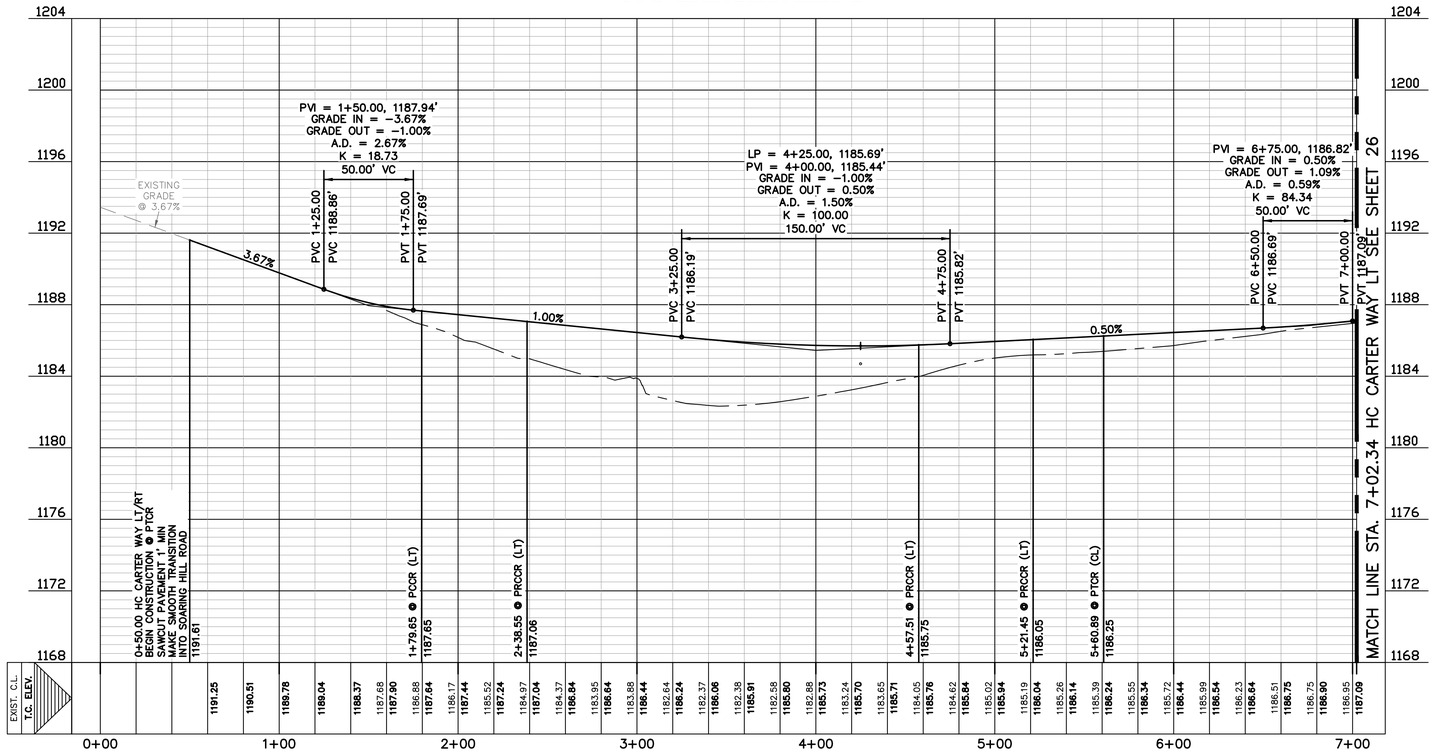
DATE: June 2023
JOB NUMBER: 5079
SHEET: 23 OF 162

FILE PATH: I:\ACAD\5079\dwg\Construction Plans\5079-STREET P&P 1.dwg - Jun 14, 2023 - 1:25pm

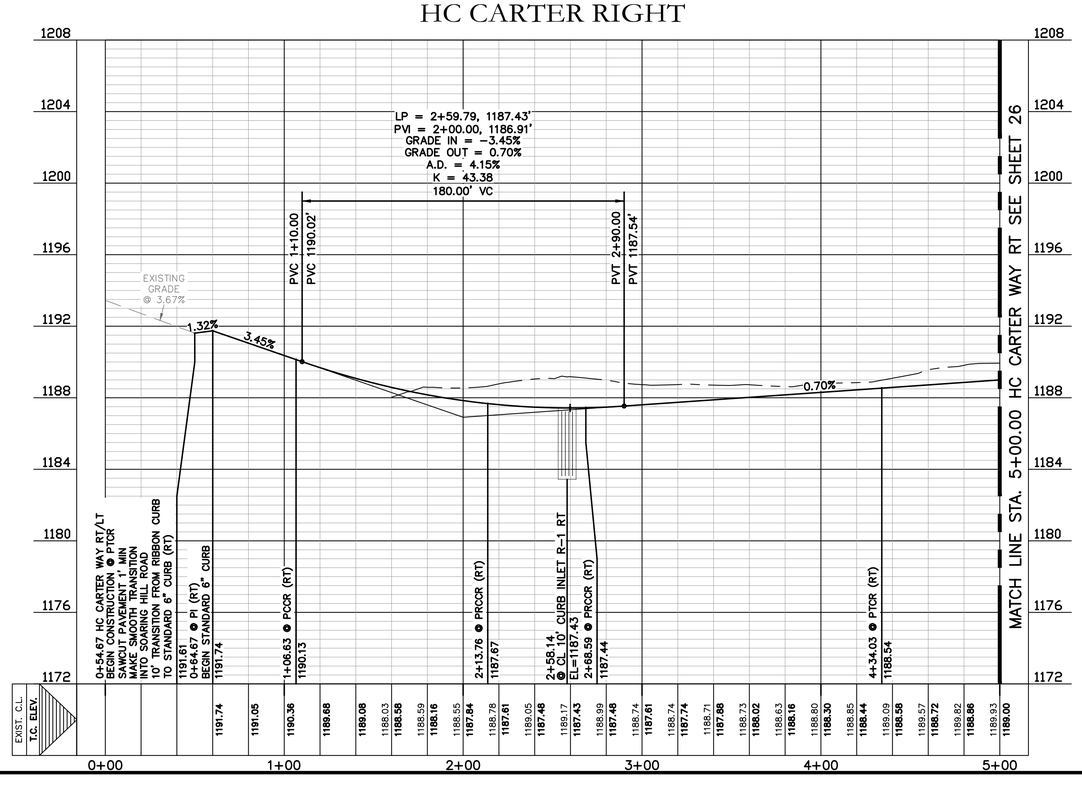
SUB-STREET.CTB

SUB-STREET.CTB

HC CARTER LEFT



HC CARTER RIGHT



PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED T/C LT. & RT. ——————

SUBGRADE — — — — — —

NATURAL GROUND $\mathcal{L}$ ——— – ———

NOTE:

PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF CURB. ELEVATION DIFFERENCE FOR RIBBON CURB TRANSITIONS ARE SHOWN IN PROFILE.

DESIGNED BY: QD	DRAFTED BY: CJP

REVISION	DATE

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office
5501 West William Cannon Dr. 12129 RR 620 N., Ste. 600
Austin, Texas 78749 Austin, Texas 78750
Phone No. (512) 280-5160 www.cbdeng.com

SHEET NAME: HC CARTER WAY PROFILE LT (0+00-7+02.28) RT (0+00-5+00)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE June 2023

JOB NUMBER 5079

SHEET 24 OF 162

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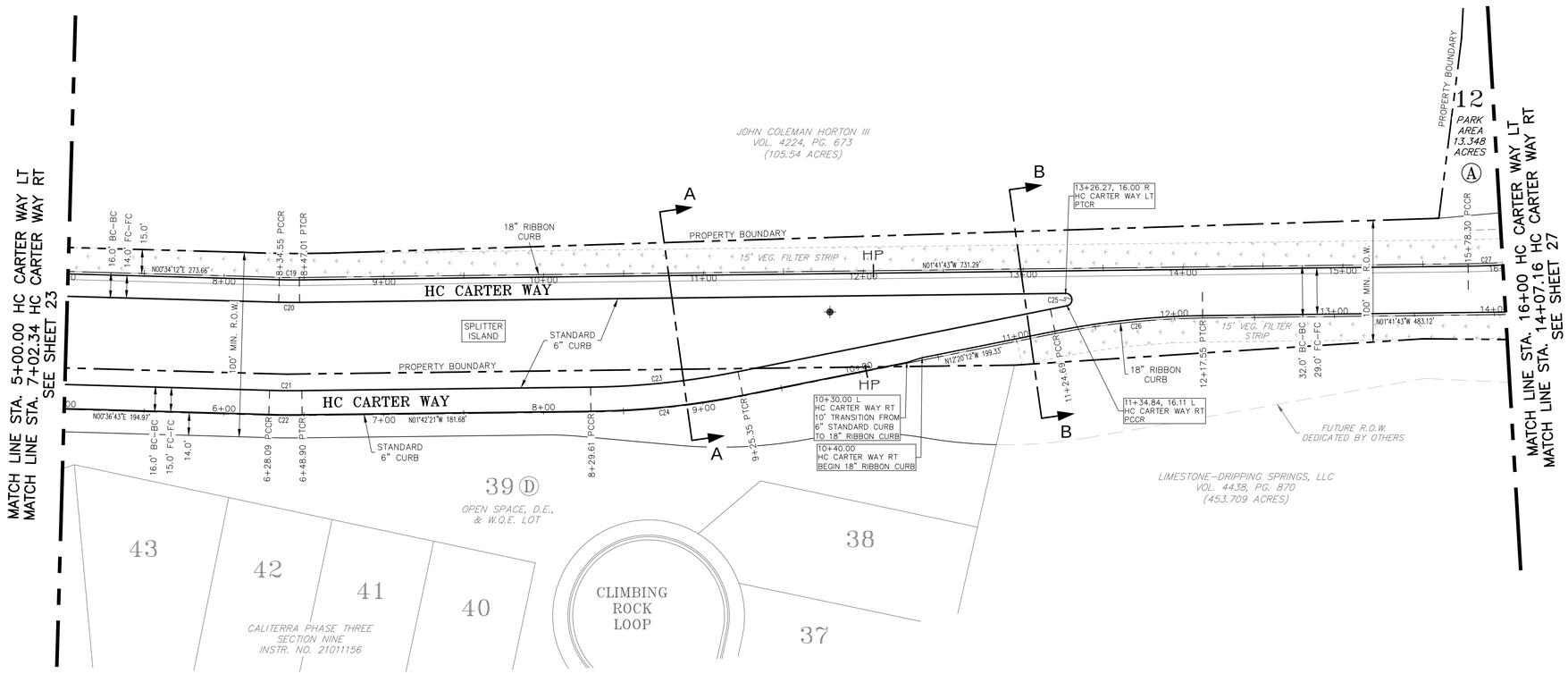


LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER

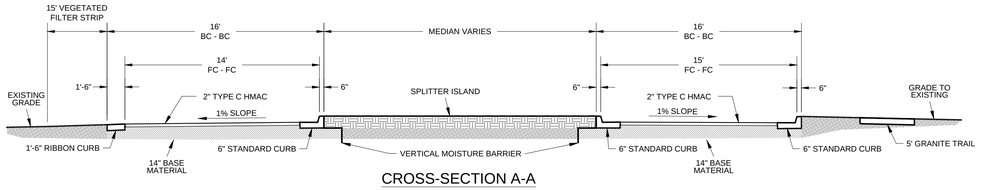
0 40' 80'

SCALE: 1" = 40'

NOTE:

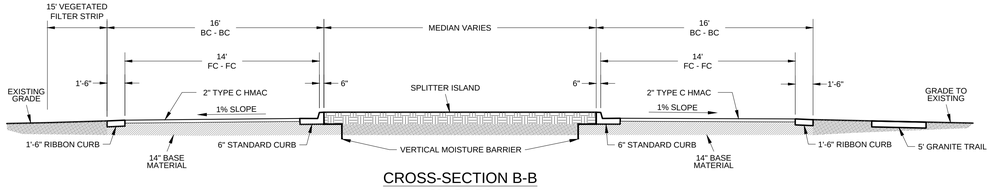
ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C19	315.01'	6.23'	002°15'54"	12.45'	12.45'
C20	331.00'	6.54'	002°15'54"	13.08'	13.09'
C21	455.71'	10.07'	002°31'54"	20.13'	20.14'
C22	471.71'	10.41'	002°31'41"	20.81'	20.81'
C23	500.00'	46.52'	010°37'50"	92.64'	92.77'
C24	516.00'	48.01'	010°37'50"	95.60'	95.74'
C25	3.50'	37.58'	169°21'32"	6.97'	10.35'
C26	500.00'	46.56'	010°38'28"	92.73'	92.86'
C27	464.00'	35.85'	008°50'11"	71.49'	71.56'



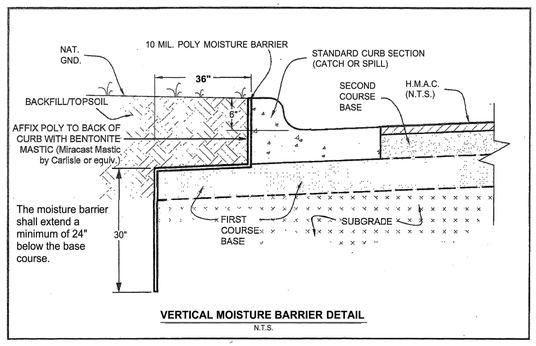
CROSS-SECTION A-A

SCALE: N.T.S



CROSS-SECTION B-B

SCALE: N.T.S



VERTICAL MOISTURE BARRIER DETAIL

N.T.S.

DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #1379
Main Office: 5501 West William Cannon Dr., Austin, Texas 78749, Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600, Austin, Texas 78750, www.cbdeng.com

SHEET NAME: HC CARTER WAY PLAN LT (7+02.28-16+00) RT (5+00-14+07.16)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

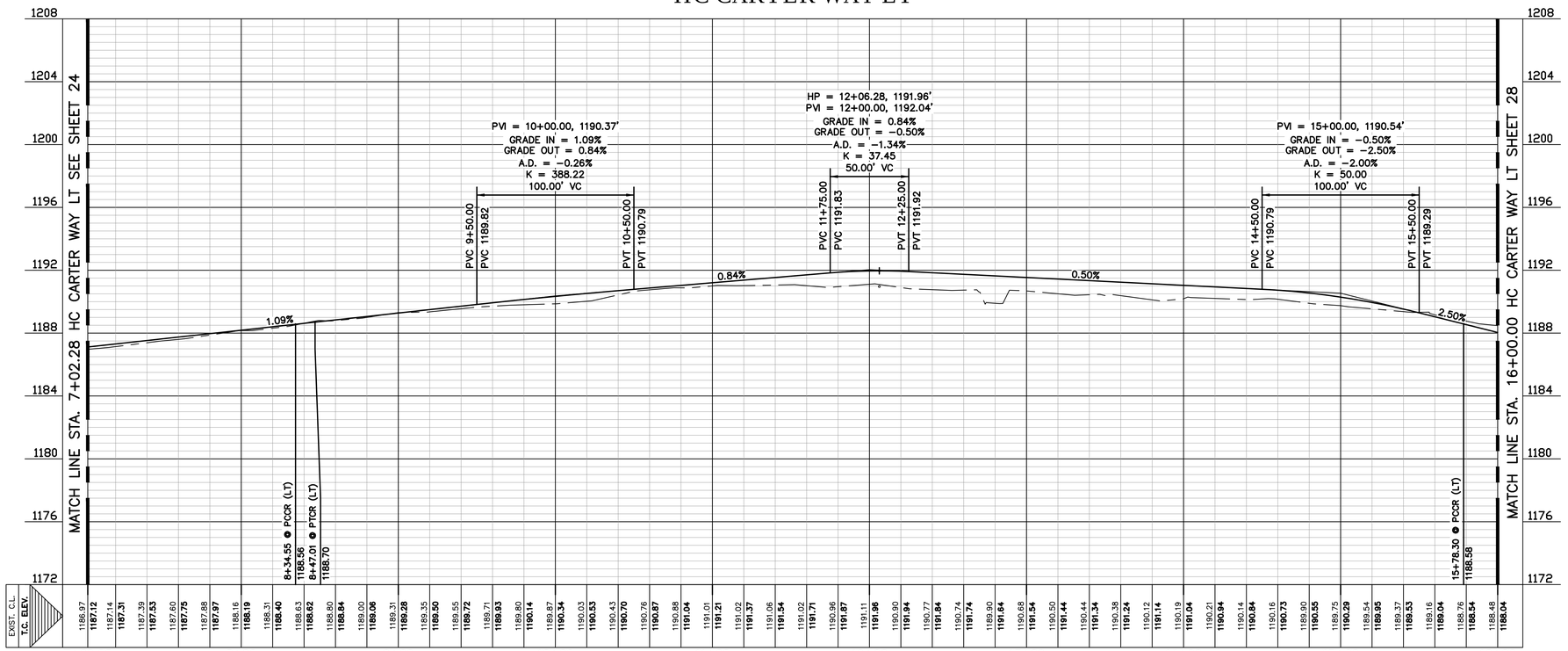
Quynn Dusek 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
@ # 13791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 25 OF 162

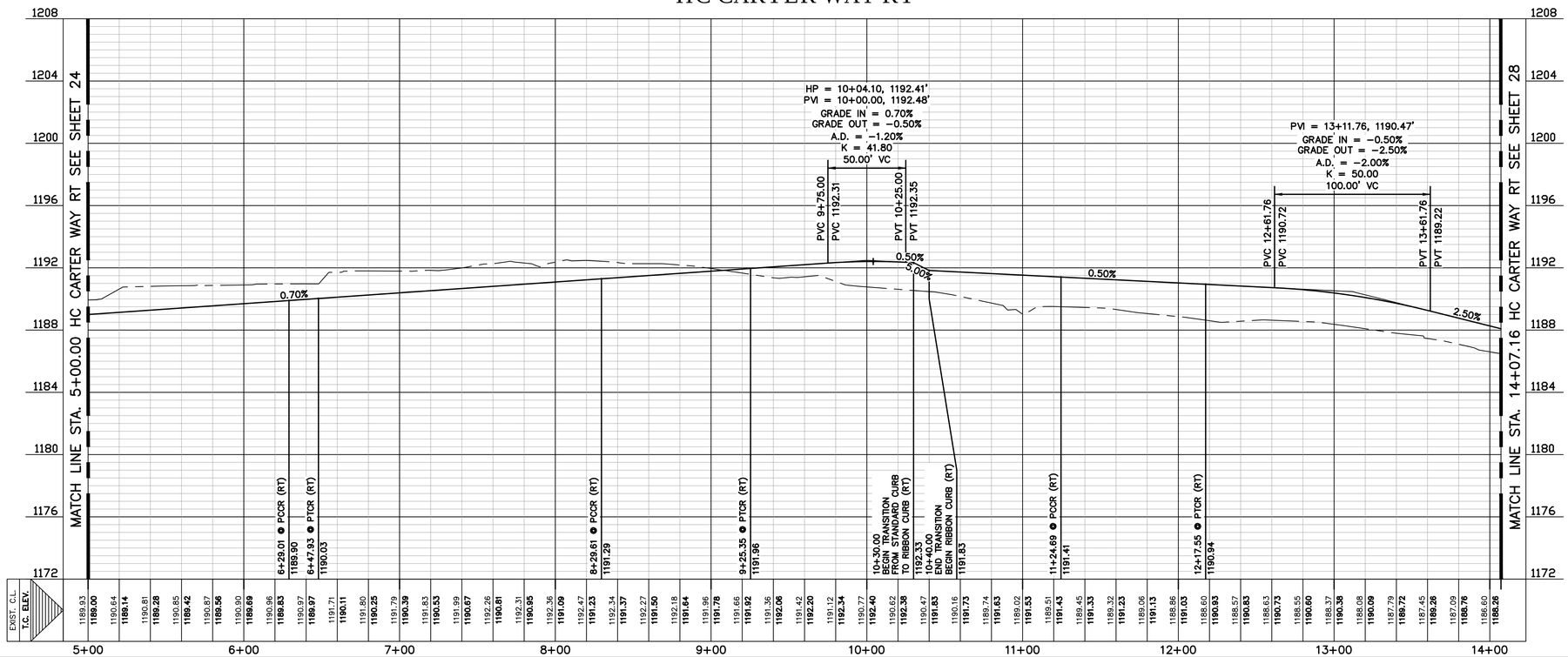
SUB:STREET.CTB

FILE PATH=J:\AC3D\5079\dwg\Construction Plans\5079-STREET P&P 1.dwg - Jun 14, 2023 - 9:16am

HC CARTER WAY LT



HC CARTER WAY RT



PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED T/C LT. & RT. ——————

SUBGRADE — — — — —

NATURAL GROUND $\mathcal{L}$ ——— – ———

NOTE:

PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF CURB. ELEVATION DIFFERENCE FOR RIBBON CURB TRANSITIONS ARE SHOWN IN PROFILE.

DESIGNED BY: QD	DRAFTED BY: CJP

REVISION	DATE

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office
5501 West William Cannon Dr.
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Phone No. (512) 280-5160
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www.cbdeng.com

SHEET NAME: HC CARTER WAY PROFILE LT (7+02.28-16+00) RT (5+00-14+07.16)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

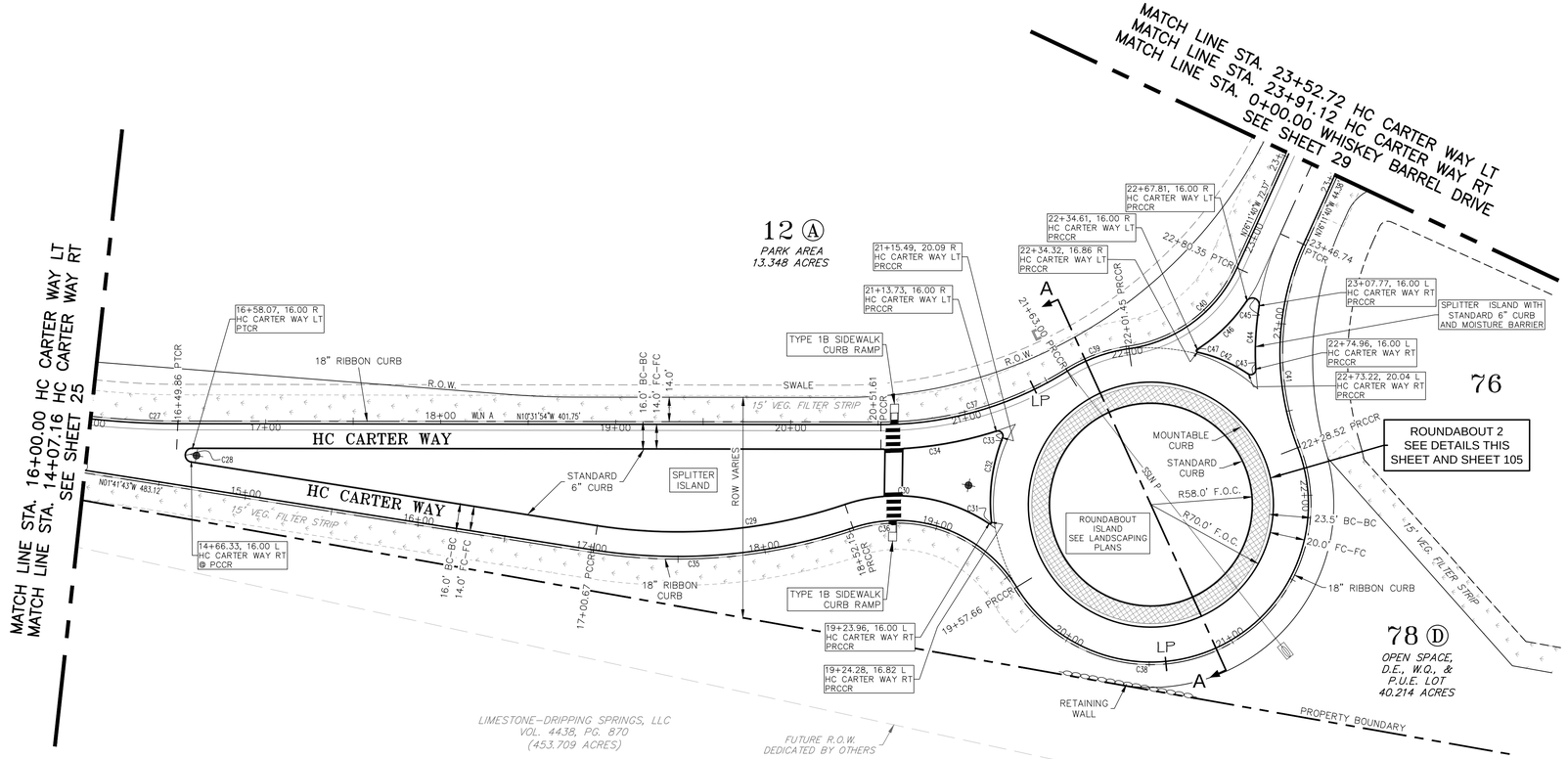
Quynn Dusek
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

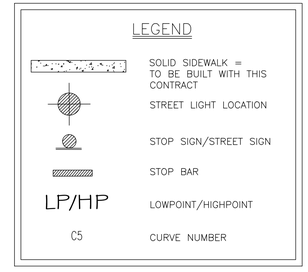
DATE June 2023

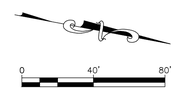
JOB NUMBER 5079

SHEET 26 OF 162

SUB:STREET.CTB





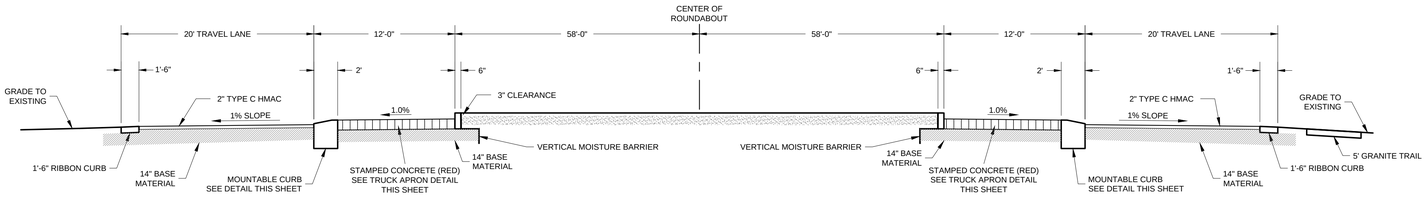


SCALE: 1" = 40'

NOTE:

ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.

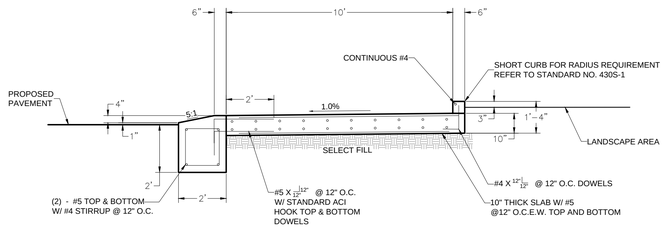
CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C27	464.00'	35.85'	008°50'11"	71.49'	71.56'
C28	3.50'	45.30'	171°09'49"	6.98'	10.46'
C29	299.50'	73.31'	027°30'36"	142.42'	143.80'
C30	94.50'	46.51'	052°24'46"	83.46'	86.45'
C31	0.50'	1.08'	130°24'45"	0.91'	1.14'
C32	100.50'	25.12'	028°04'07"	48.74'	49.23'
C33	2.50'	5.28'	129°19'36"	4.52'	5.64'
C34	214.50'	33.84'	017°55'53"	66.86'	67.13'
C35	315.50'	77.23'	027°30'36"	150.03'	151.48'
C36	78.50'	62.45'	077°00'30"	97.74'	105.51'
C37	198.50'	57.20'	032°09'03"	109.93'	111.39'
C38	91.50'	1006.43'	169°36'37"	182.25'	270.86'
C39	91.50'	19.51'	024°04'36"	38.17'	38.45'
C40	78.50'	43.15'	057°35'19"	75.62'	78.90'
C41	148.50'	62.44'	045°36'46"	115.12'	118.22'
C42	80.50'	15.94'	022°24'08"	31.27'	31.47'
C43	2.50'	5.09'	127°39'51"	4.49'	5.57'
C44	164.50'	18.25'	012°39'36"	36.27'	36.35'
C45	3.50'	16.33'	155°48'36"	6.84'	9.52'
C46	94.50'	20.28'	024°13'45"	39.66'	39.96'
C47	0.50'	1.23'	135°49'03"	0.93'	1.19'



PROPOSED ROUNDABOUT

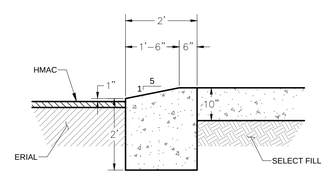
CROSS-SECTION A-A

SCALE: N.T.S



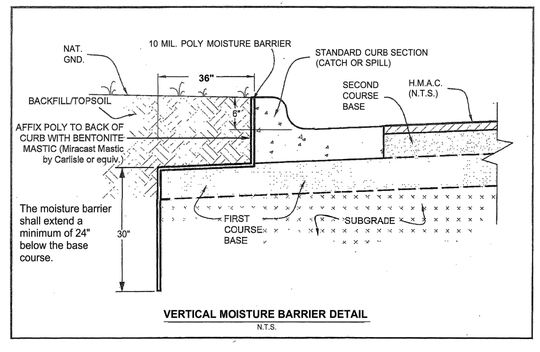
TRUCK APRON DETAIL

N.T.S.



MOUNTABLE CURB DETAIL

N.T.S.



VERTICAL MOISTURE BARRIER DETAIL

N.T.S.

DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #1759
Main Office: 5501 West William Cannon Dr., Austin, Texas 78749, Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600, Austin, Texas 78750, www.cbdeng.com

SHEET NAME: HC CARTER WAY PLAN LT (16+00-END) RT (14+07.16-END)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

QUYNN DUSEK 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID # F3791

DATE: June 2023

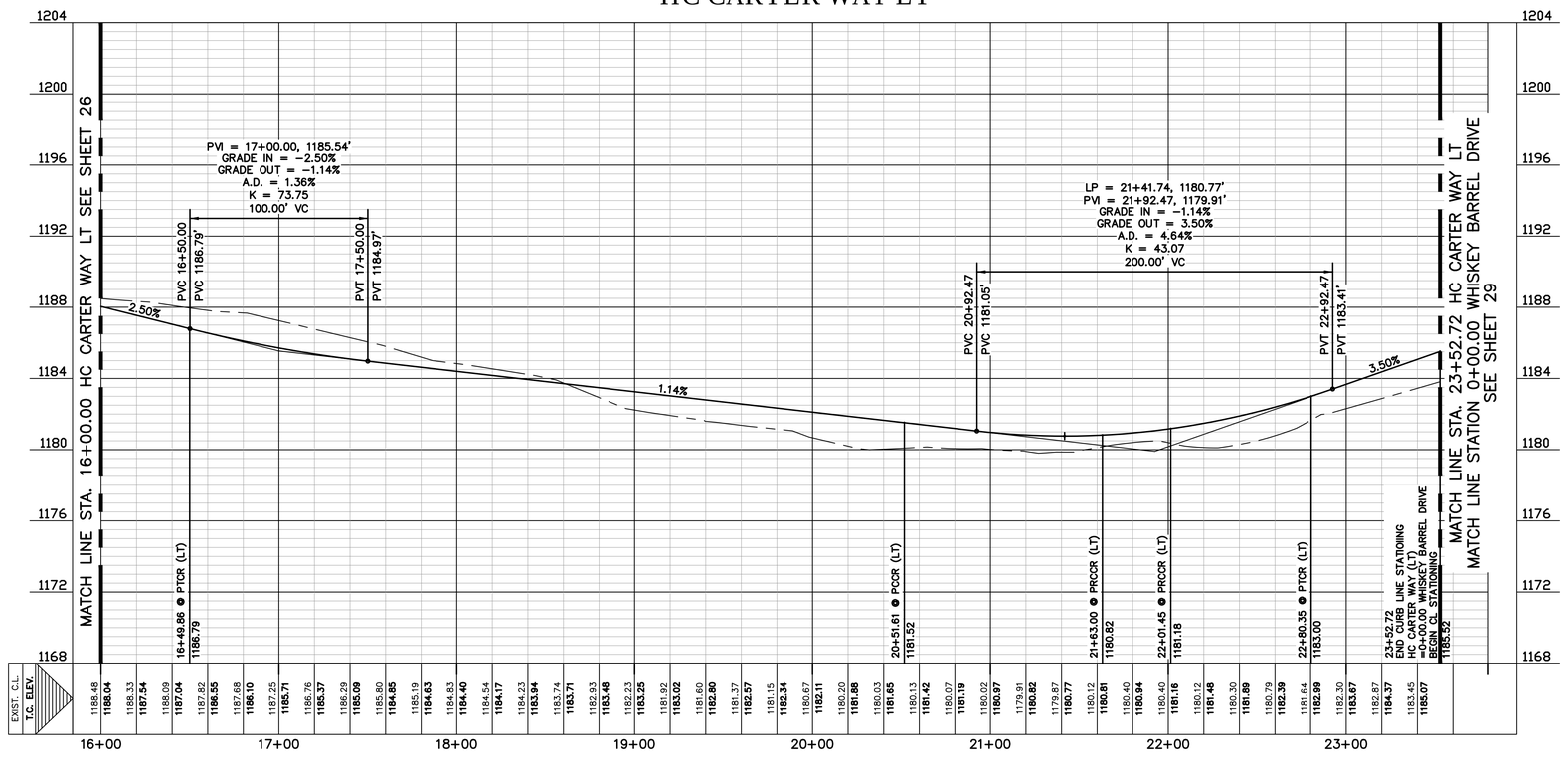
JOB NUMBER: 5079

SHEET: 27 OF 162

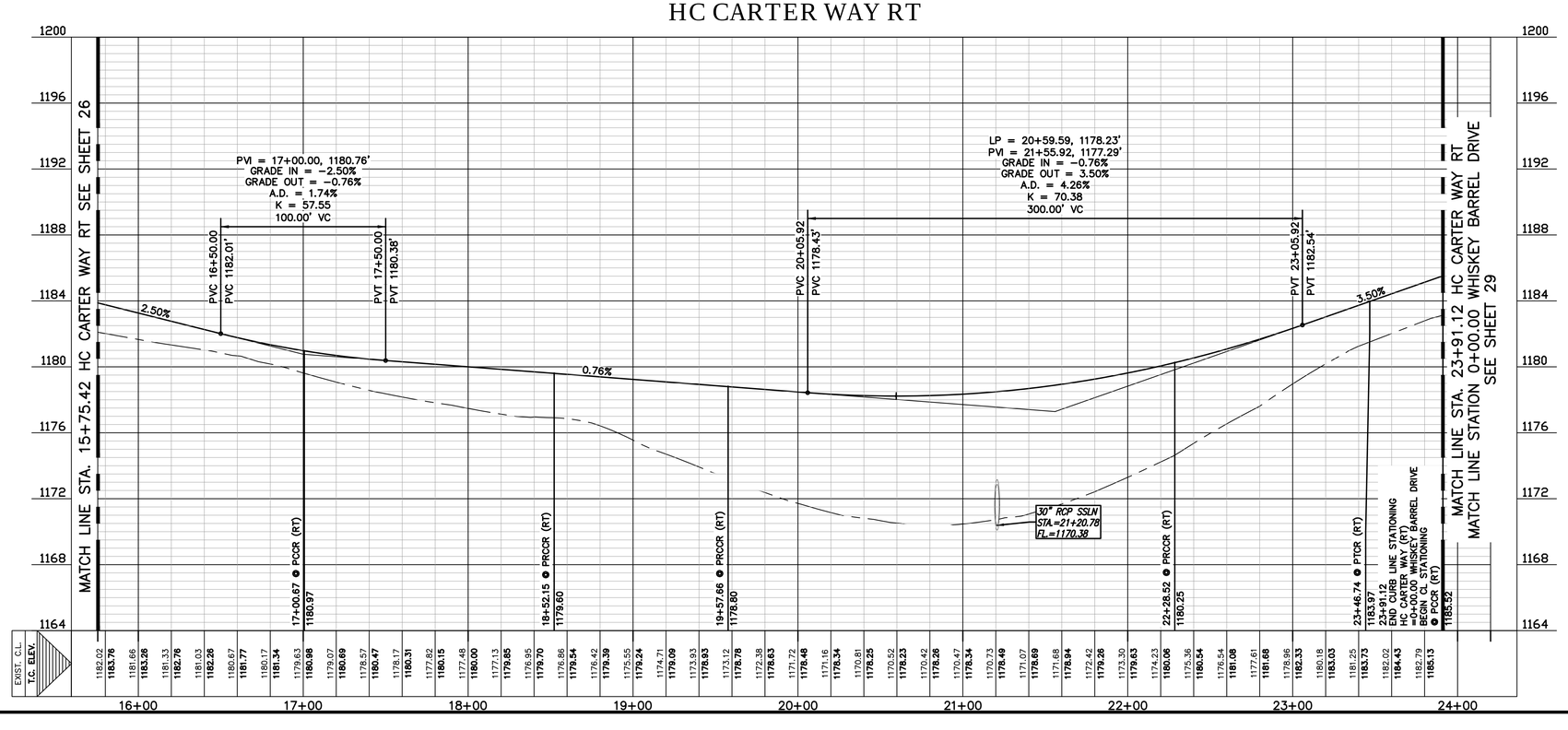
FILE PATH: J:\AC3D\5079\dwg\Construction Plans\5079-STREET P&P 1.dwg - Jun 14, 2023 - 9:17am

SUB:STREET.CTB

HC CARTER WAY LT



HC CARTER WAY RT



PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED T/C LT. & RT. ——————

SUBGRADE — — — — —

NATURAL GROUND $\mathcal{L}$ —— – ——

NOTE:

PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF CURB. ELEVATION DIFFERENCE FOR RIBBON CURB TRANSITIONS ARE SHOWN IN PROFILE.

DESIGNED BY: QD	DRAFTED BY: CJP

REVISION	DATE

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
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Austin, Texas 78750
www.cbdeng.com

SHEET NAME: HC CARTER WAY PROFILE LT (16+00-END) RT (14+07.16-END)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

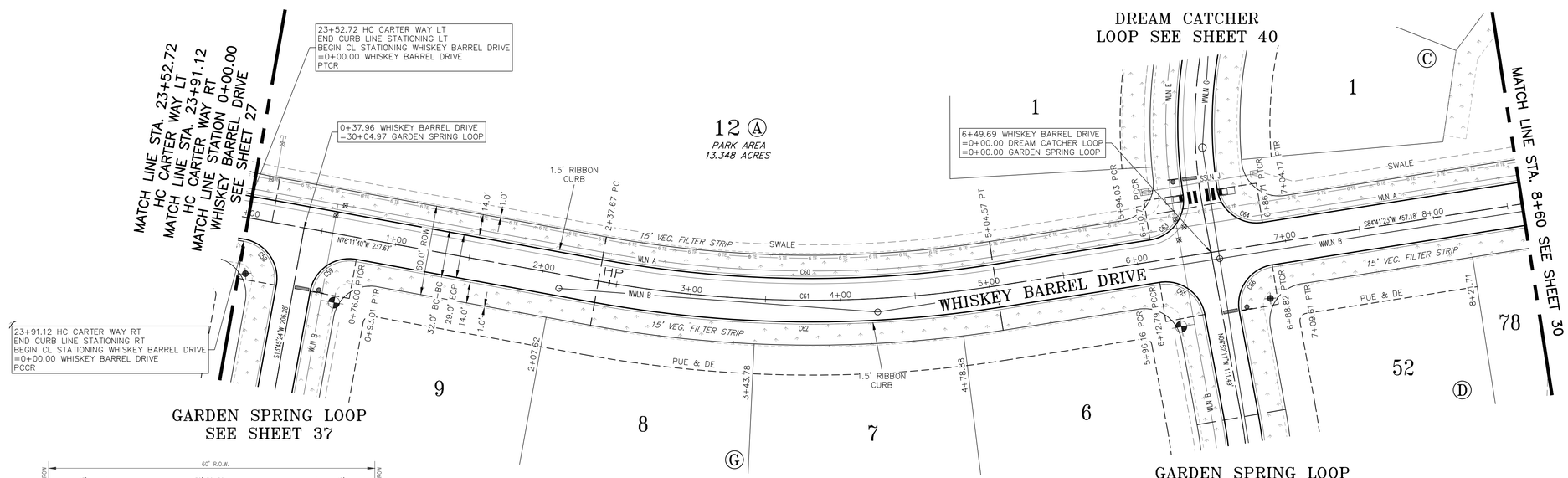
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

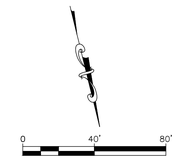
DATE: June 2023

JOB NUMBER: 5079

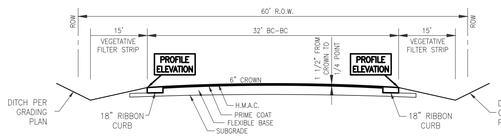
SHEET: 28 OF 162

FILE PATH: J:\AC3D\5079\dwg\Construction Plans\5079-STREET P&P 1.dwg - Jun 14, 2023 - 9:17am





SCALE: 1" = 40'



TYPICAL STREET CROSS SECTION
29' PAVEMENT WIDTH
N.T.S.

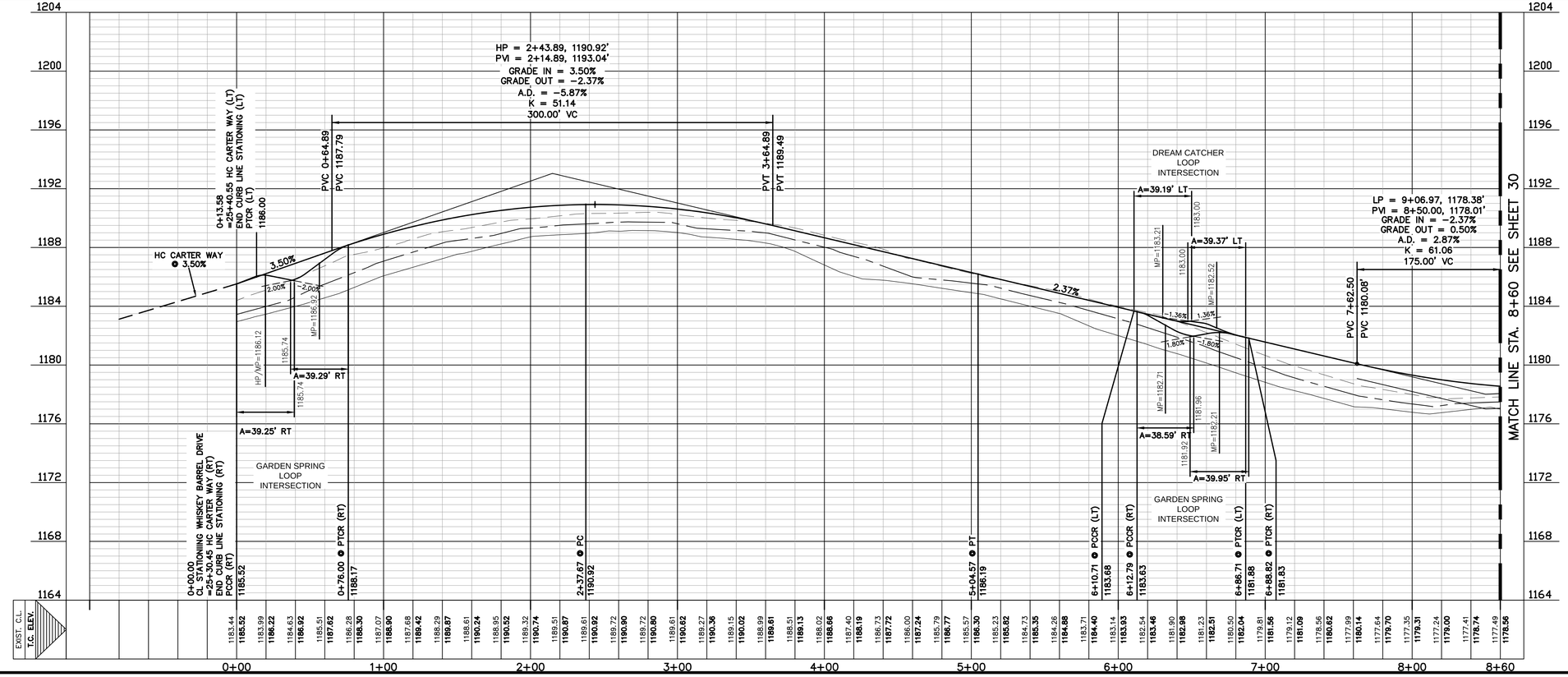
PROFILE SCALE			
HORIZ: 1" = 40'	NATURAL GROUND RT.	NATURAL GROUND LT.	
VERT: 1" = 4'	NATURAL GROUND $\mathbb{C}$	PROPOSED T/C LT. & RT.	

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C51	284.50'	176.59'	063°39'22"	300.07'	316.08'
C58	25.00'	24.98'	089°57'04"	35.34'	39.25'
C59	25.00'	25.02'	090°02'56"	35.37'	39.29'
C60	784.00'	132.01'	019°06'57"	260.36'	261.57'
C61	800.00'	134.71'	019°06'57"	265.67'	266.91'

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C62	816.00'	137.40'	019°06'57"	270.98'	272.25'
C63	25.00'	24.92'	089°49'33"	35.30'	39.19'
C64	25.00'	25.10'	090°13'29"	35.42'	39.37'
C65	25.00'	24.33'	088°26'20"	34.87'	38.59'
C66	25.00'	25.69'	091°33'40"	35.83'	39.95'



DESIGNED BY: QD	DRAFTED BY: CJP
DATE	
REVISION	

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

Carlson, Brigance & Doering, Inc.
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Austin, Texas 78749
Phone No.: (512) 280-5160
www.cbdeng.com

SHEET NAME: WHISKEY BARREL DRIVE PLAN & PROFILE (0+00-8+60)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 29 OF 162

SUB-STREET.CTB

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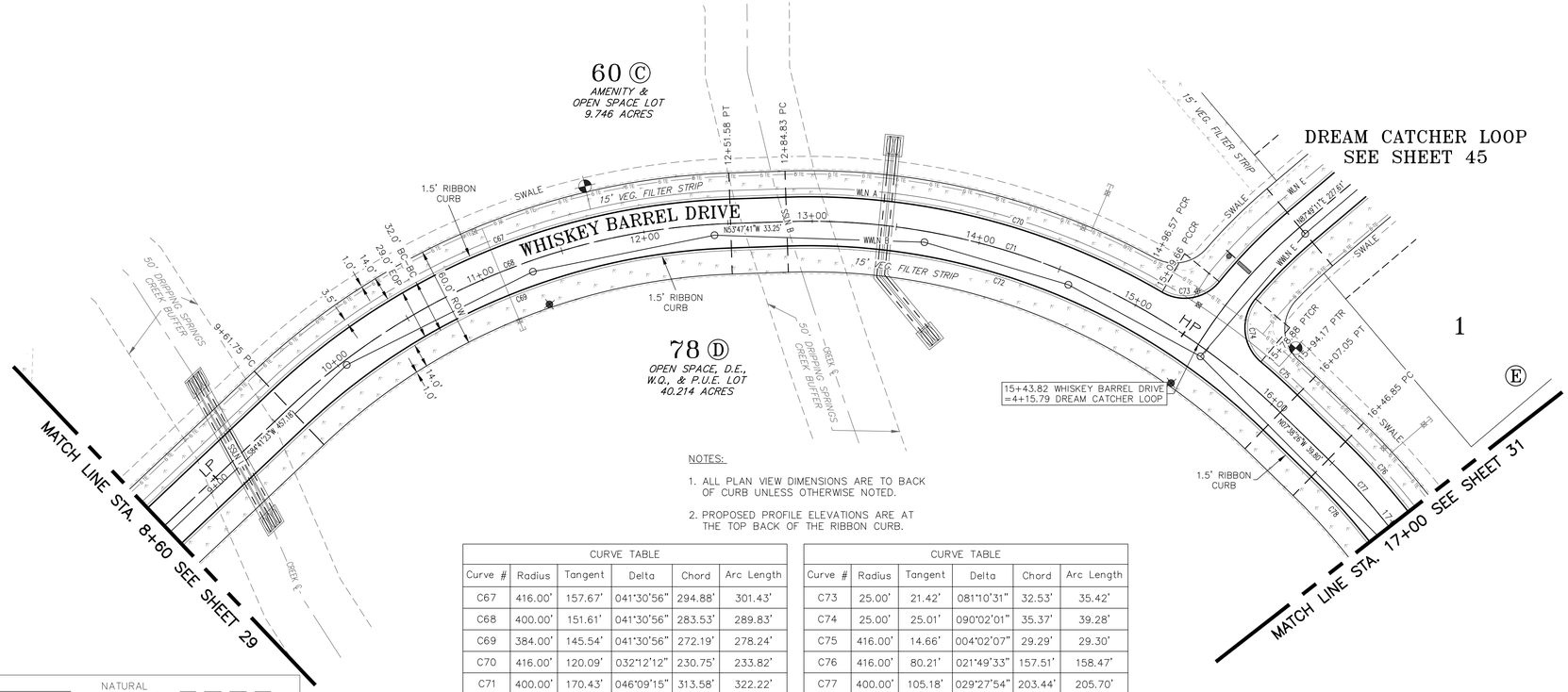
SUB-STREET.CTB



LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

CURVE TABLE

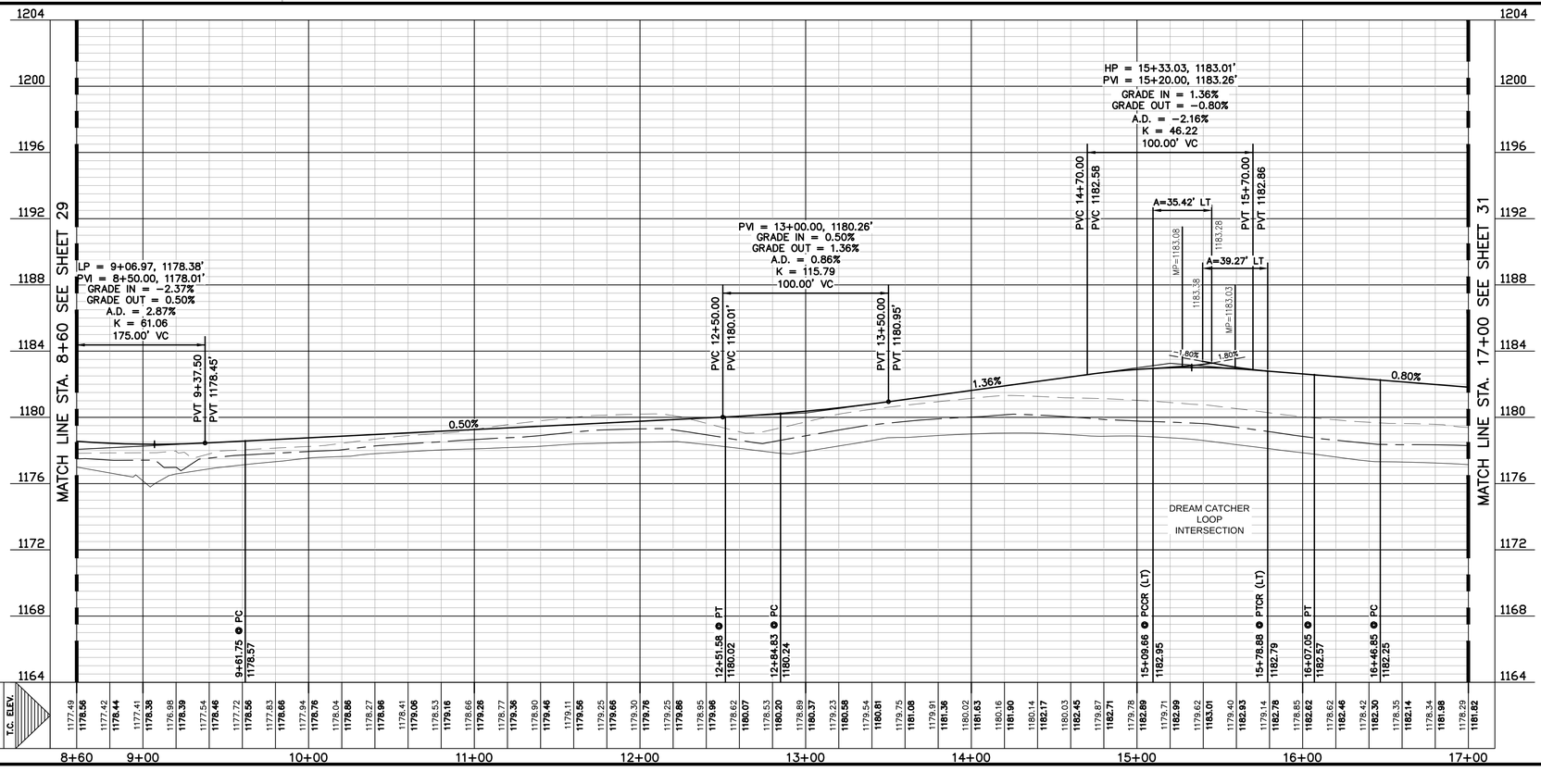
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C67	416.00'	157.67'	041°30'56"	294.88'	301.43'
C68	400.00'	151.61'	041°30'56"	283.53'	289.83'
C69	384.00'	145.54'	041°30'56"	272.19'	278.24'
C70	416.00'	120.09'	032°12'12"	230.75'	233.82'
C71	400.00'	170.43'	046°09'15"	313.58'	322.22'
C72	384.00'	163.61'	046°09'15"	301.03'	309.33'

CURVE TABLE

Curve #	Radius	Tangent	Delta	Chord	Arc Length
C73	25.00'	21.42'	081°10'31"	32.53'	35.42'
C74	25.00'	25.01'	090°02'01"	35.37'	39.28'
C75	416.00'	14.66'	004°02'07"	29.29'	29.30'
C76	416.00'	80.21'	021°49'33"	157.51'	158.47'
C77	400.00'	105.18'	029°27'54"	203.44'	205.70'
C78	384.00'	90.44'	026°50'57"	176.06'	177.64'

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ——— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ ——— — ——— PROPOSED T/C LT. & RT. ———



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DESIGNED BY: QD
DRAFTED BY: CJP

DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office
5501 West William Cannon Dr.
Austin, Texas 78749
Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdengr.com

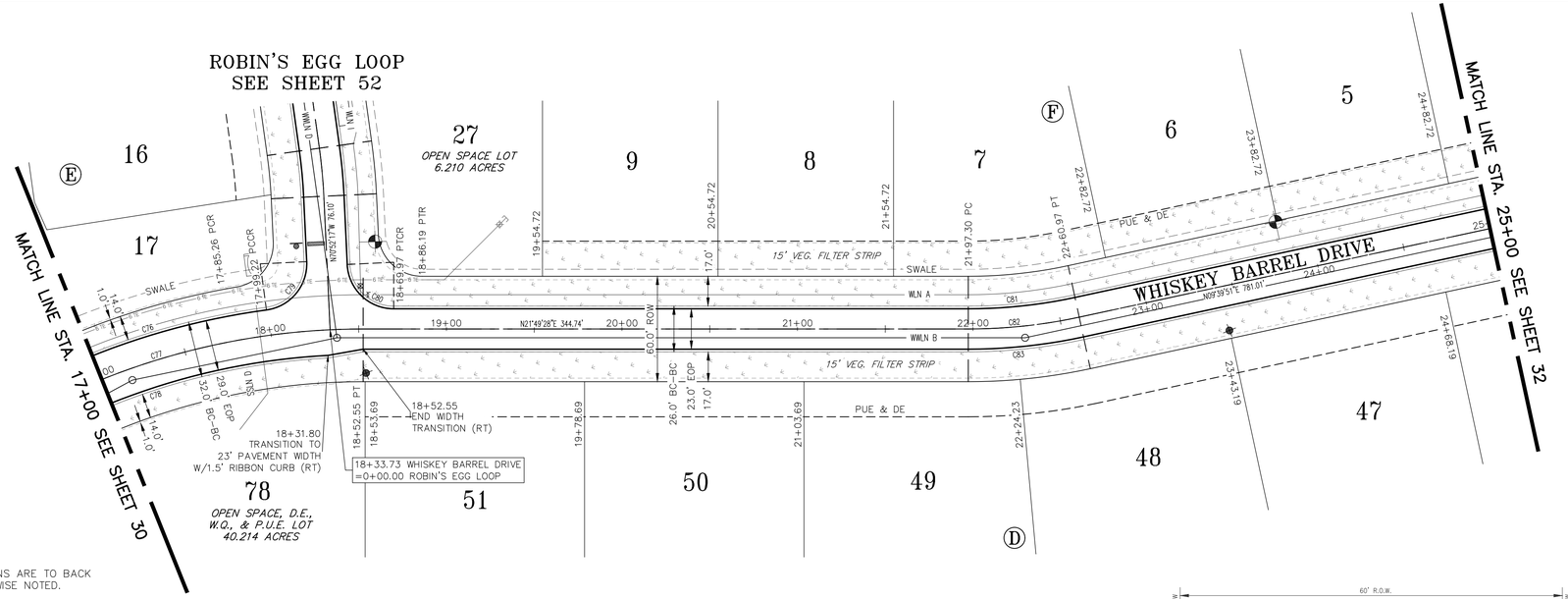
SHEET NAME: WHISKEY BARREL DRIVE PLAN & PROFILE (8+60-17+00)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 30 OF 162

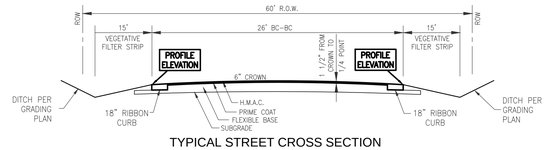


NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.
3. TRANSITION TO 23' PAVEMENT WIDTH WITH 1.5' RIBBON CURB AT ROBIN'S EGG LOOP INTERSECTION.

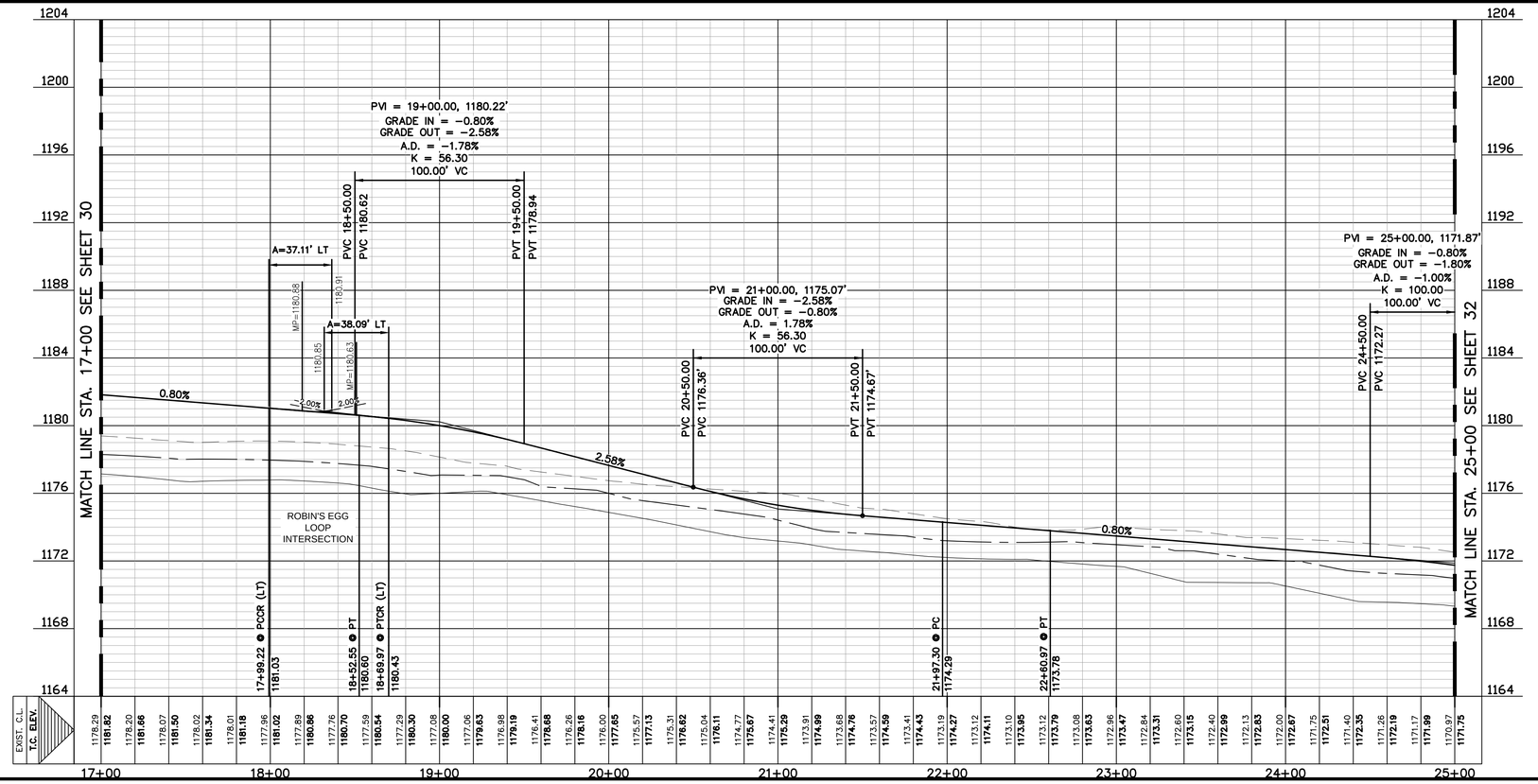
CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C76	416.00'	80.21'	021°49'33"	157.51'	158.47'
C77	400.00'	105.18'	029°27'54"	203.44'	205.70'
C78	384.00'	90.44'	026°50'57"	176.06'	177.64'
C79	25.00'	22.93'	085°03'25"	33.80'	37.11'

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C80	25.00'	23.85'	087°18'15"	34.51'	38.09'
C81	287.00'	30.57'	012°09'37"	60.80'	60.91'
C82	300.00'	31.96'	012°09'37"	63.55'	63.67'
C83	313.00'	33.34'	012°09'37"	66.31'	66.43'



TYPICAL STREET CROSS SECTION
23' PAVEMENT WIDTH
N.T.S.

PROFILE SCALE			
HORIZ: 1" = 40'	NATURAL GROUND RT.	NATURAL GROUND LT.	
VERT: 1" = 4'	NATURAL GROUND ℄	PROPOSED T/C LT. & RT.	



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SCALE: 1" = 40'

SHEET NAME: WHISKEY BARREL DRIVE PLAN & PROFILE (17+00-25+00)
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SUB.STREET.CTB

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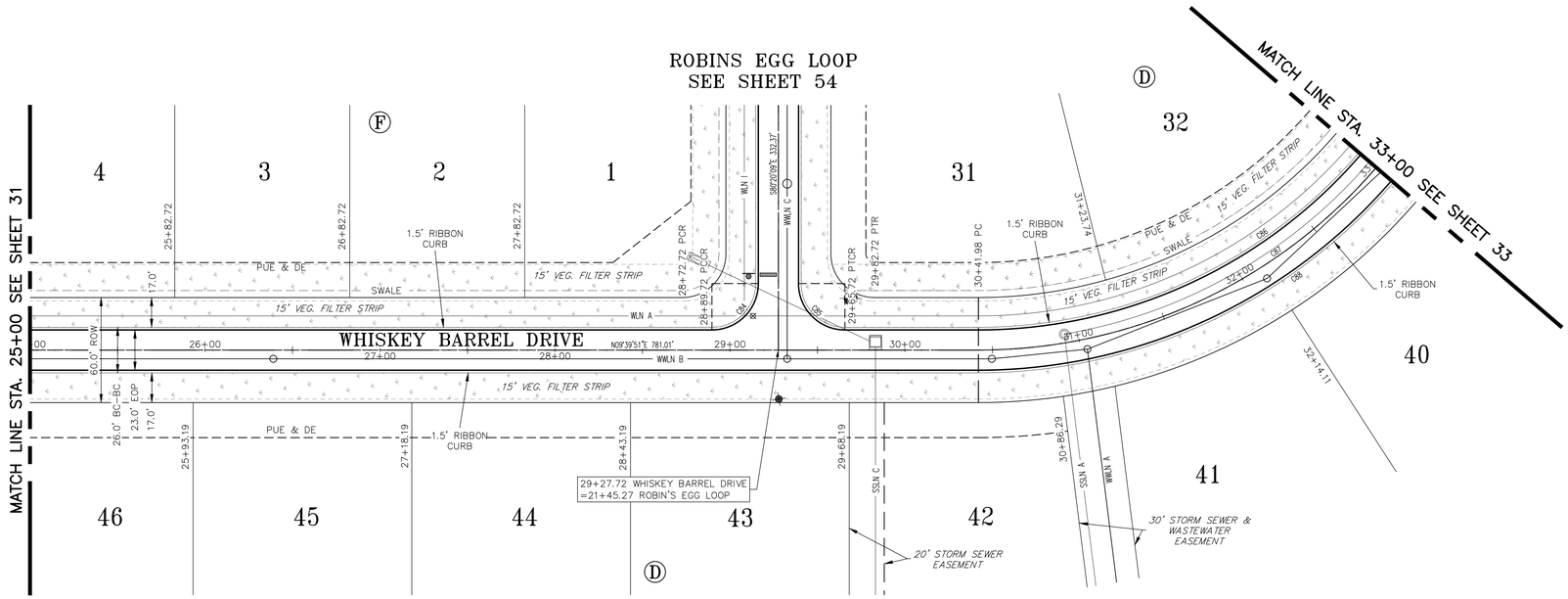


SCALE: 1" = 40'

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C84	25.00'	25.00'	090°00'00"	35.36'	39.27'
C85	25.00'	25.00'	090°00'00"	35.36'	39.27'
C86	287.00'	220.63'	075°06'04"	349.83'	376.19'

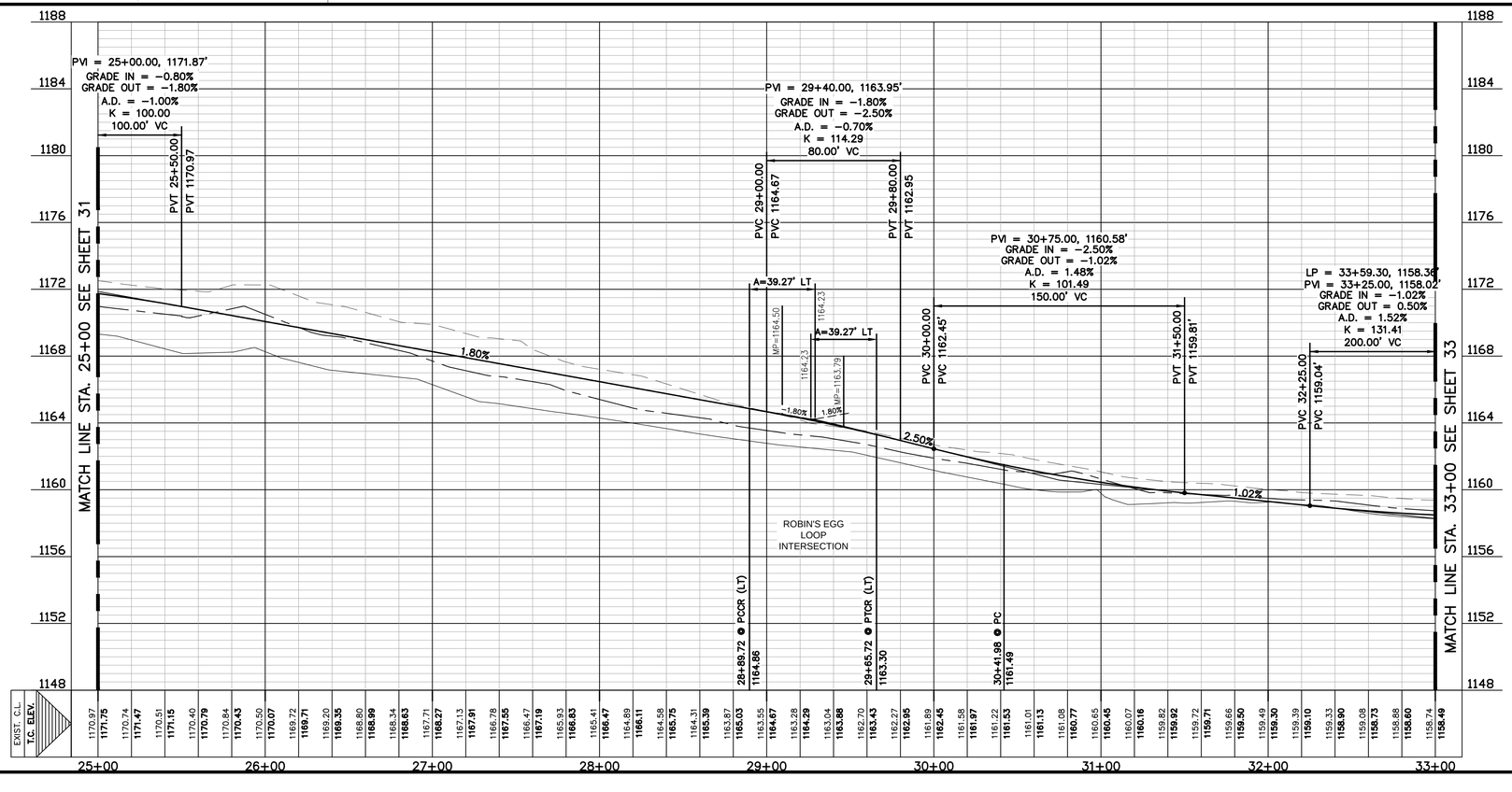
CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C87	300.00'	230.62'	075°06'04"	365.68'	393.23'
C88	313.00'	240.61'	075°06'04"	381.52'	410.27'

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ —— — —— PROPOSED T/C LT. & RT. ————



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DESIGNED BY: QD
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SHEET NAME: WHISKEY BARREL DRIVE PLAN & PROFILE (25+00-33+00)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 32 OF 162

SUB:STREET.CTB

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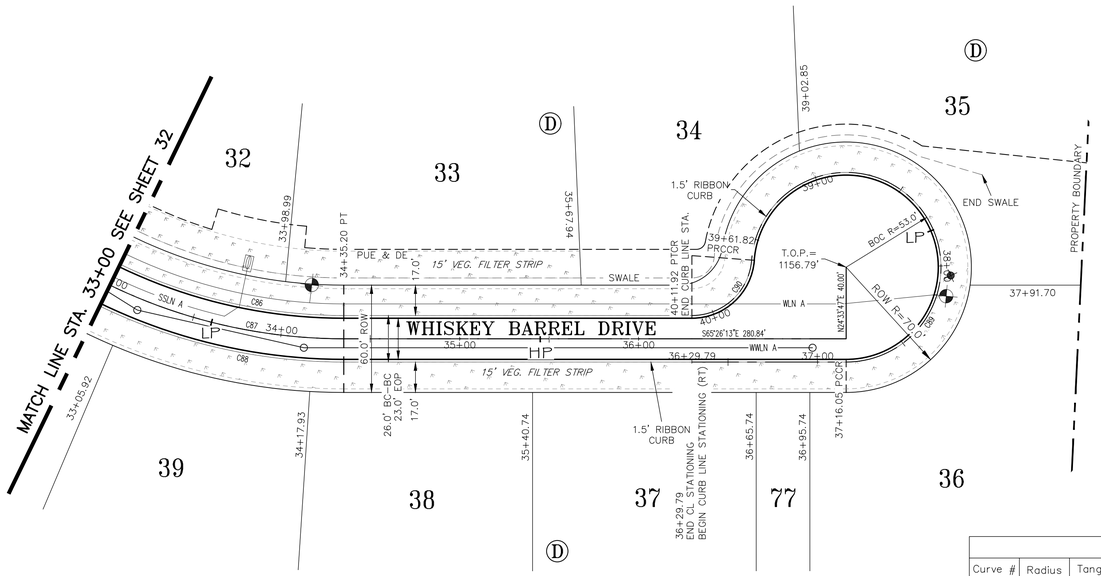
SUB-STREET.CTB



ARROYO MESA RANCH CO. LTD.
DOC. NO 9926422
(49.360 ACRES)

NOTE:

ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

0 40' 80'

SCALE: 1" = 40'

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C86	287.00'	220.63'	075°06'04"	349.83'	376.19'
C87	300.00'	230.62'	075°06'04"	365.68'	393.23'
C88	313.00'	240.61'	075°06'04"	381.52'	410.27'
C89	43.00'	61.40'	250°00'21"	70.44'	187.63'
C90	42.00'	31.00'	072°51'28"	49.88'	53.41'

NOTES:

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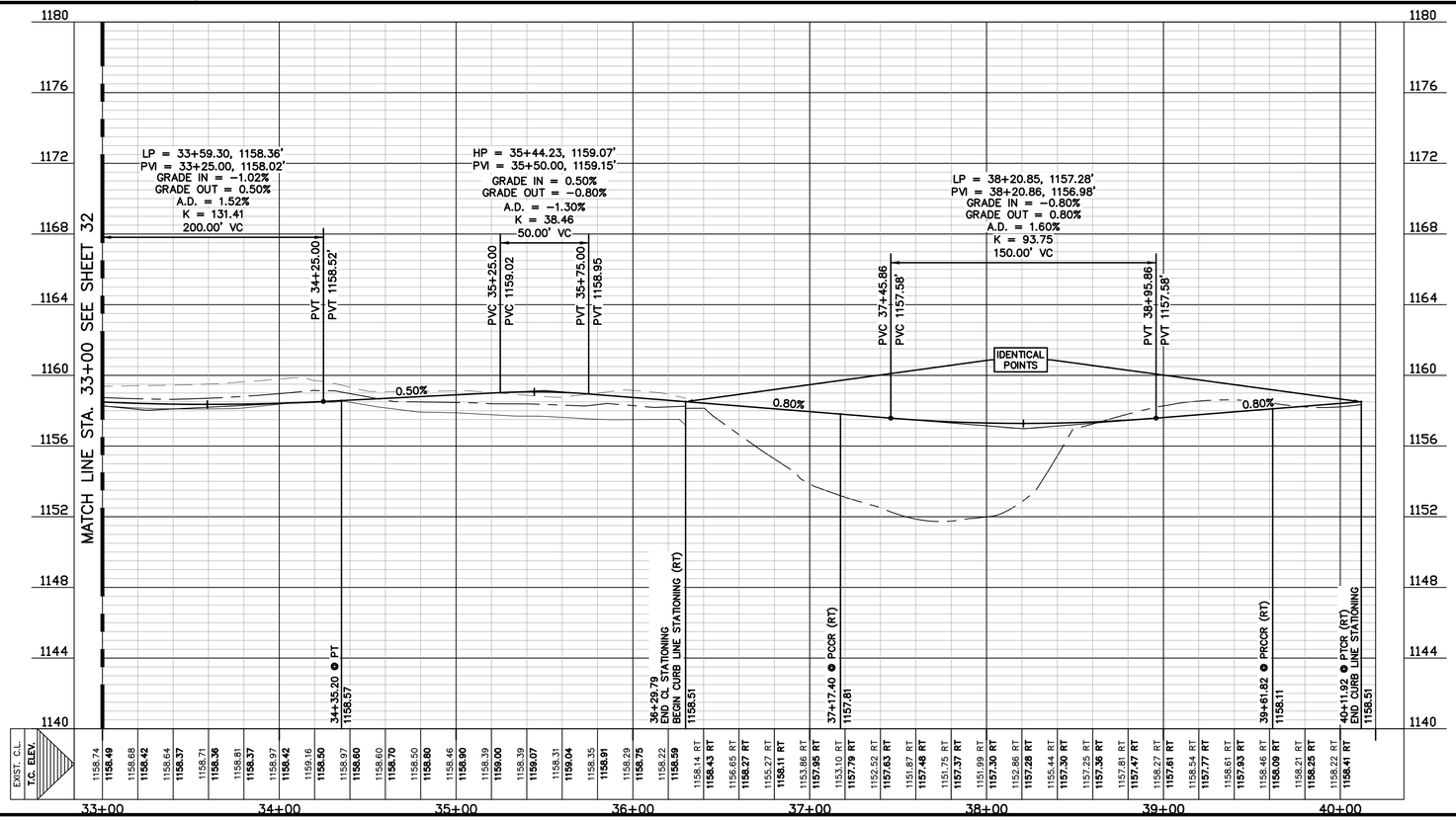
PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ——— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ ——— — ——— PROPOSED T/C LT. & RT. ———



DESIGNED BY: QD	DRAFTED BY: CJP
DATE	
REVISION	

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www.cbdengr.com

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JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

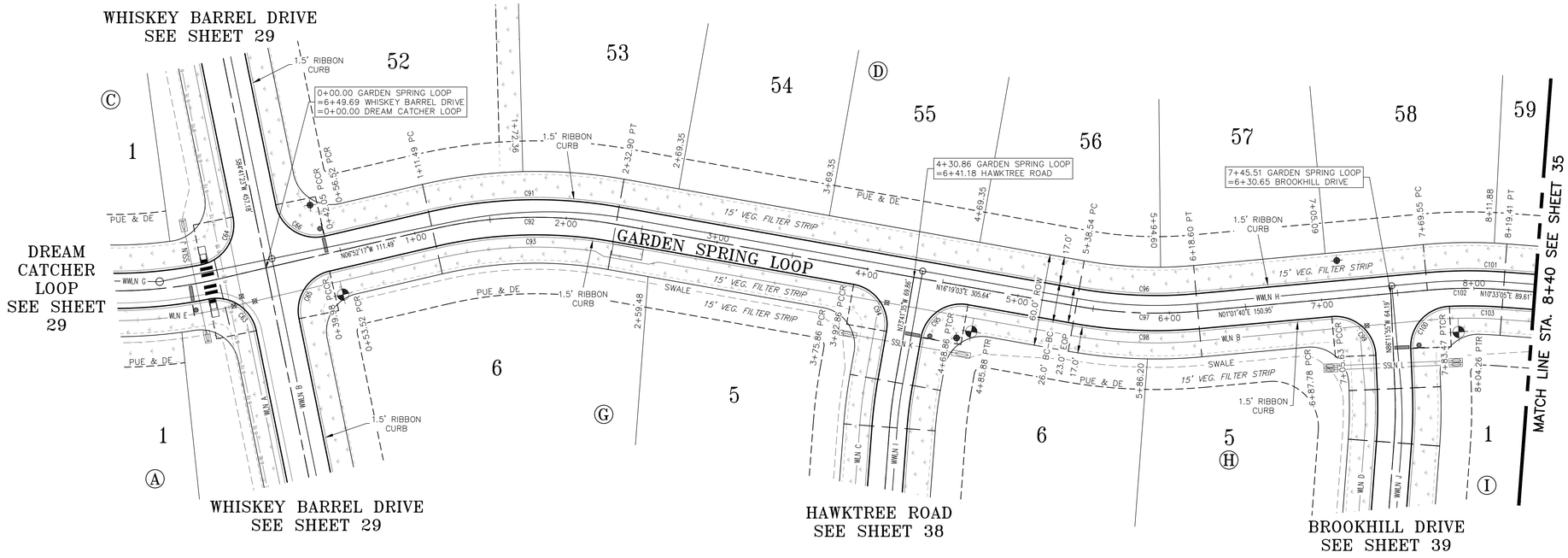
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

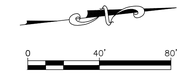
DATE: June 2023

JOB NUMBER: 5079

SHEET: 33 OF 162

FILE PATH: J:\ACAD\5079\dwg\Construction Plans\5079-STREET P&P 1.dwg - Jun 14, 2023 - 9:18am





SCALE: 1" = 40'

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

NOTES:

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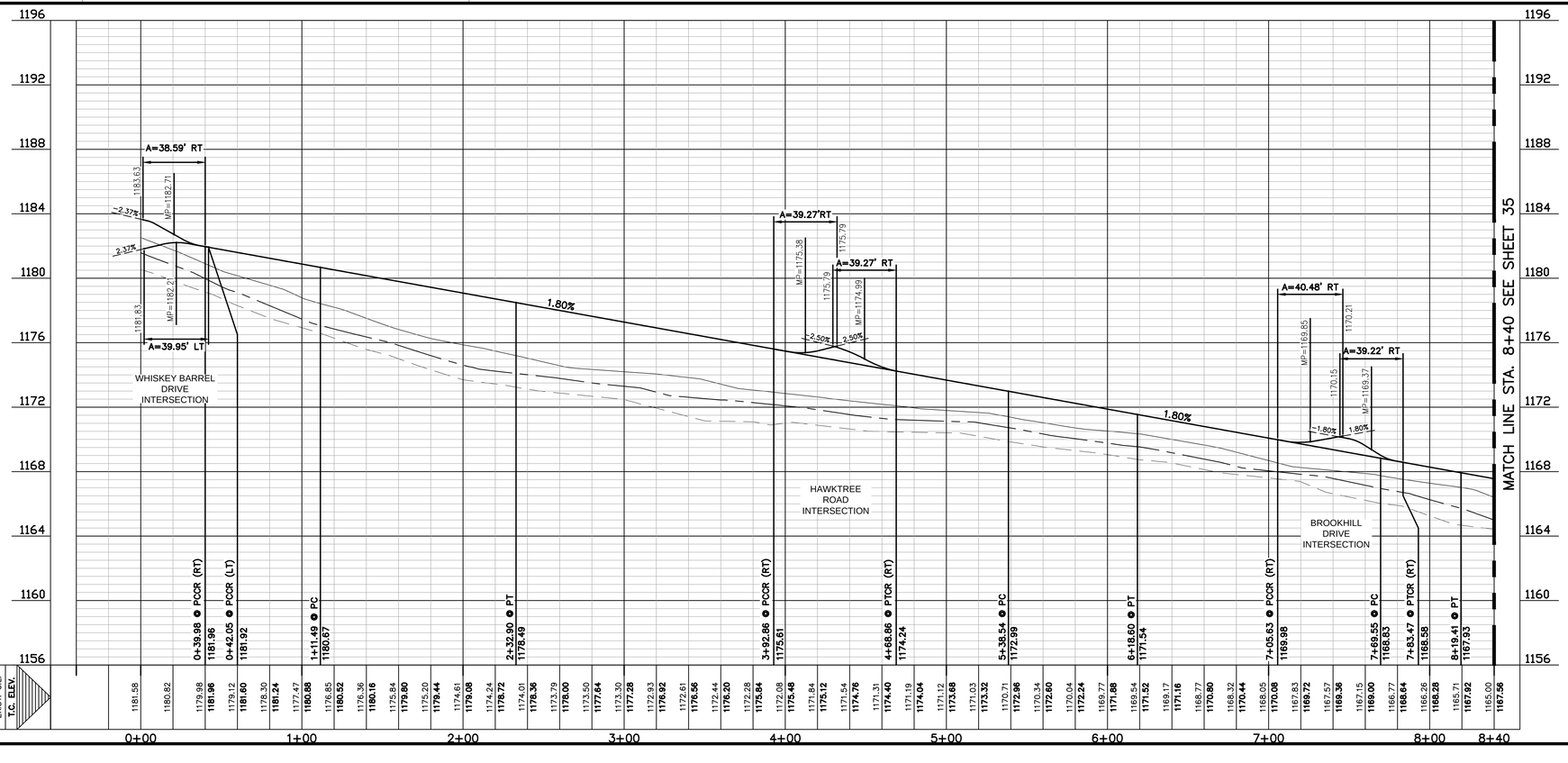
PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ —— — —— PROPOSED T/C LT. & RT. ————



CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C63	25.00'	24.92'	089°49'33"	35.30'	39.19'
C64	25.00'	25.10'	090°13'29"	35.42'	39.37'
C65	25.00'	24.33'	088°26'20"	34.87'	38.59'
C66	25.00'	25.69'	091°33'40"	35.83'	39.95'
C91	313.00'	64.19'	023°10'42"	125.76'	126.62'
C92	300.00'	61.52'	023°10'42"	120.54'	121.36'
C93	287.00'	58.86'	023°10'42"	115.31'	116.10'
C94	25.00'	25.00'	089°59'22"	35.35'	39.27'
C95	25.00'	25.00'	090°00'38"	35.36'	39.27'
C96	287.00'	38.43'	015°25'50"	76.19'	76.41'
C97	300.00'	40.18'	015°15'18"	79.64'	79.88'
C98	313.00'	41.92'	015°25'50"	83.09'	83.34'
C99	25.00'	26.24'	092°46'26"	36.20'	40.48'
C100	25.00'	24.95'	089°53'08"	35.32'	39.22'
C101	313.00'	26.07'	009°31'25"	51.97'	52.03'
C102	300.00'	24.99'	009°31'25"	49.81'	49.87'
C103	287.00'	17.21'	006°51'52"	34.36'	34.38'

DESIGNED BY: QD
DRAFTED BY: CJP

DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
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Phone No. (512) 280-5160
North Office
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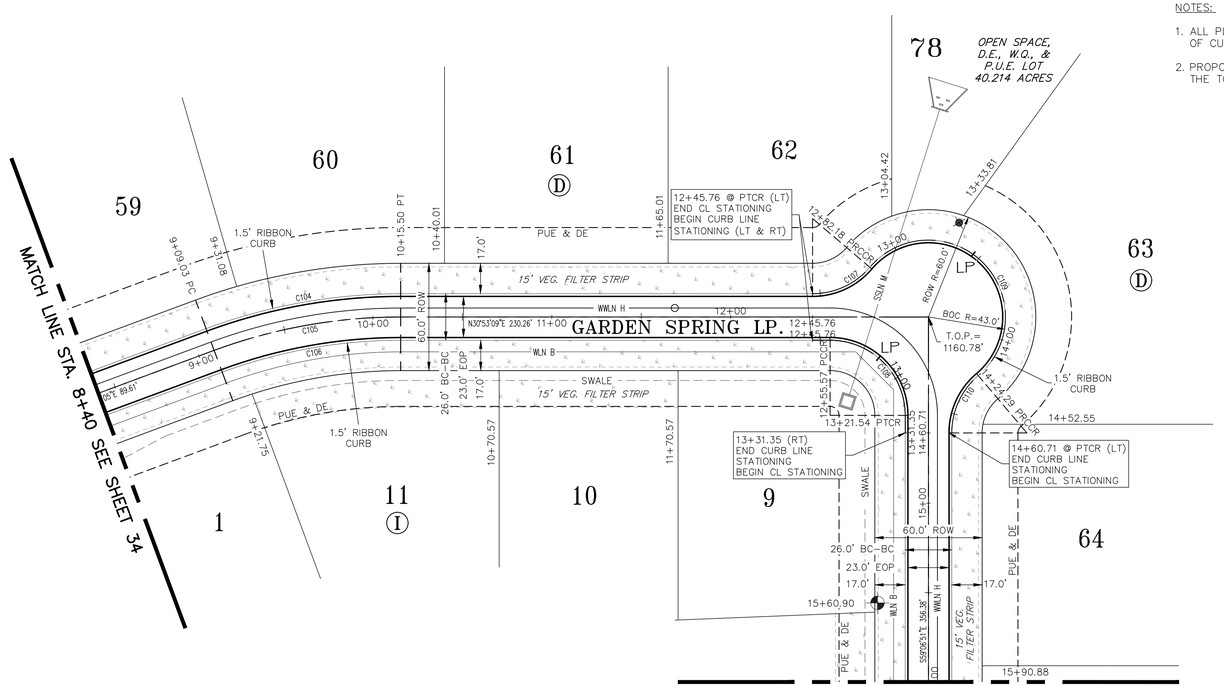
Austin, Texas 78750
www.cbdengr.com

SHEET NAME: GARDEN SPRING LOOP PLAN & PROFILE (0+00-8+40)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE June 2023
JOB NUMBER 5079
SHEET 34 OF 162

SUB-STREET.CTB



NOTES:

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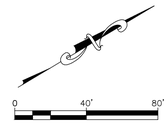
LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

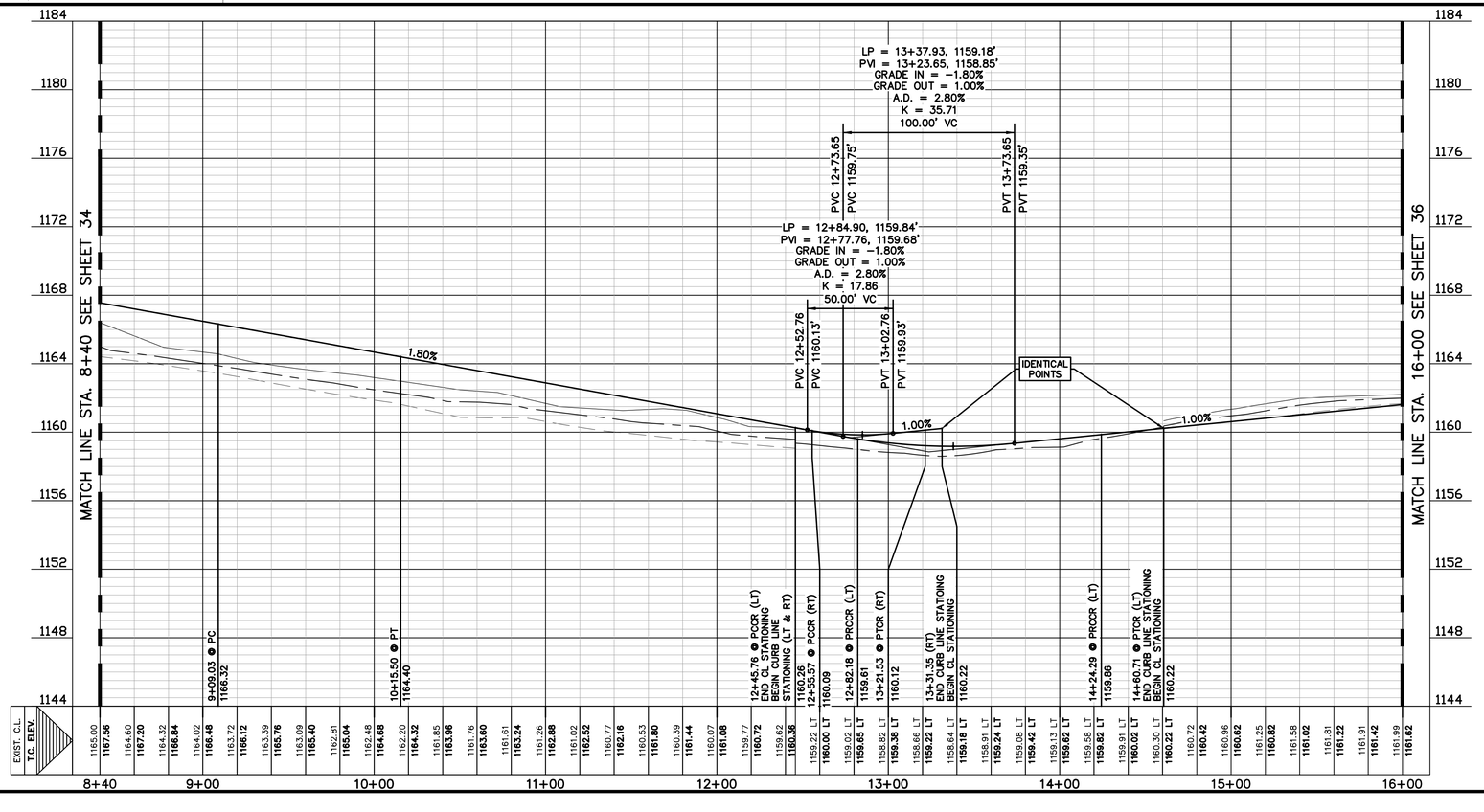


SCALE: 1" = 40'

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C104	313.00'	56.13'	020°20'04"	110.50'	111.08'
C105	300.00'	53.80'	020°20'04"	105.91'	106.47'
C106	287.00'	51.47'	020°20'04"	101.32'	101.86'
C107	42.00'	19.44'	049°40'47"	35.29'	36.42'
C108	42.00'	42.00'	090°00'00"	59.40'	65.97'
C109	43.00'	525.29'	189°21'34"	85.71'	142.11'
C110	42.00'	19.44'	049°40'47"	35.29'	36.42'

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ ——— — ——— PROPOSED T/C LT. & RT. ————



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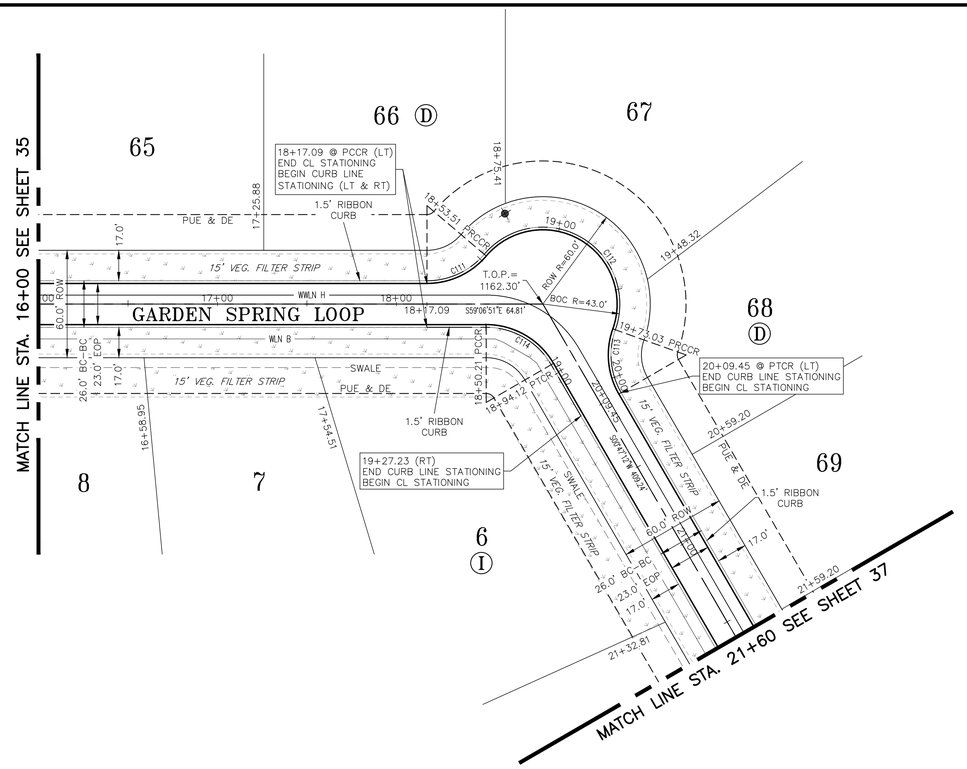

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- STOP SIGN/STREET SIGN
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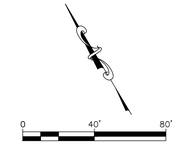
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

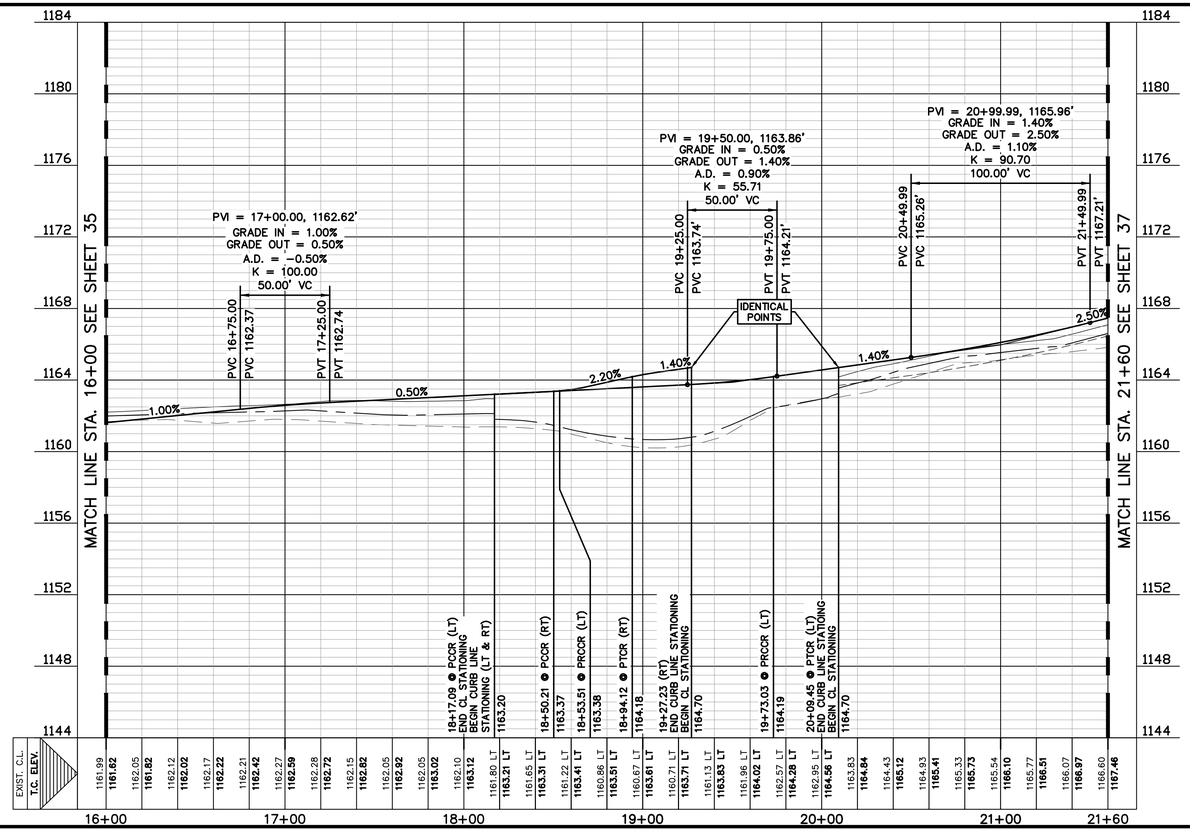


SCALE: 1" = 40'

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C111	42.00'	19.44'	049°40'47"	35.29'	36.42'
C112	43.00'	234.99'	159°15'38"	84.60'	119.52'
C113	42.00'	19.44'	049°40'47"	35.29'	36.42'
C114	42.00'	24.20'	059°54'03"	41.94'	43.91'

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ ——— — ——— PROPOSED T/C LT. & RT. ————



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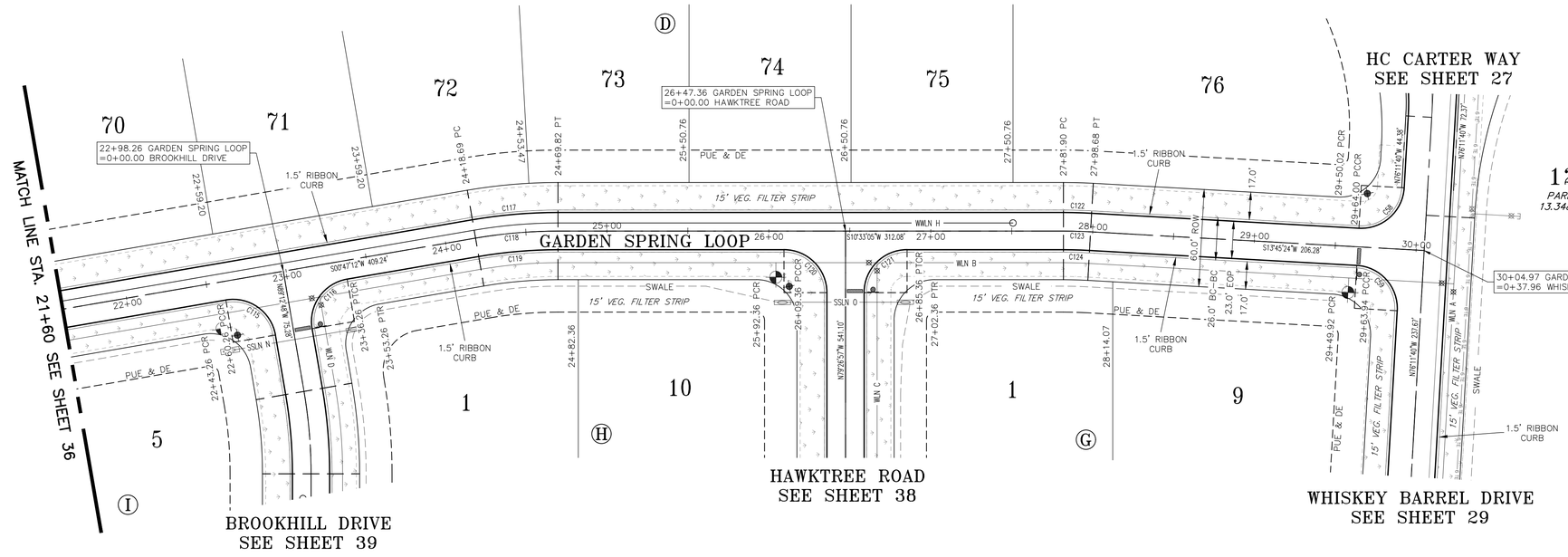

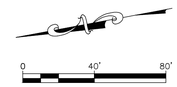

SCALE: 1" = 40'

LEGEND	
	SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
	STREET LIGHT LOCATION
	STOP SIGN/STREET SIGN
	STOP BAR
LP/HP	LOWPOINT/HIGHPOINT
C5	CURVE NUMBER
6 TE	6" TREATED EFFLUENT

NOTES:

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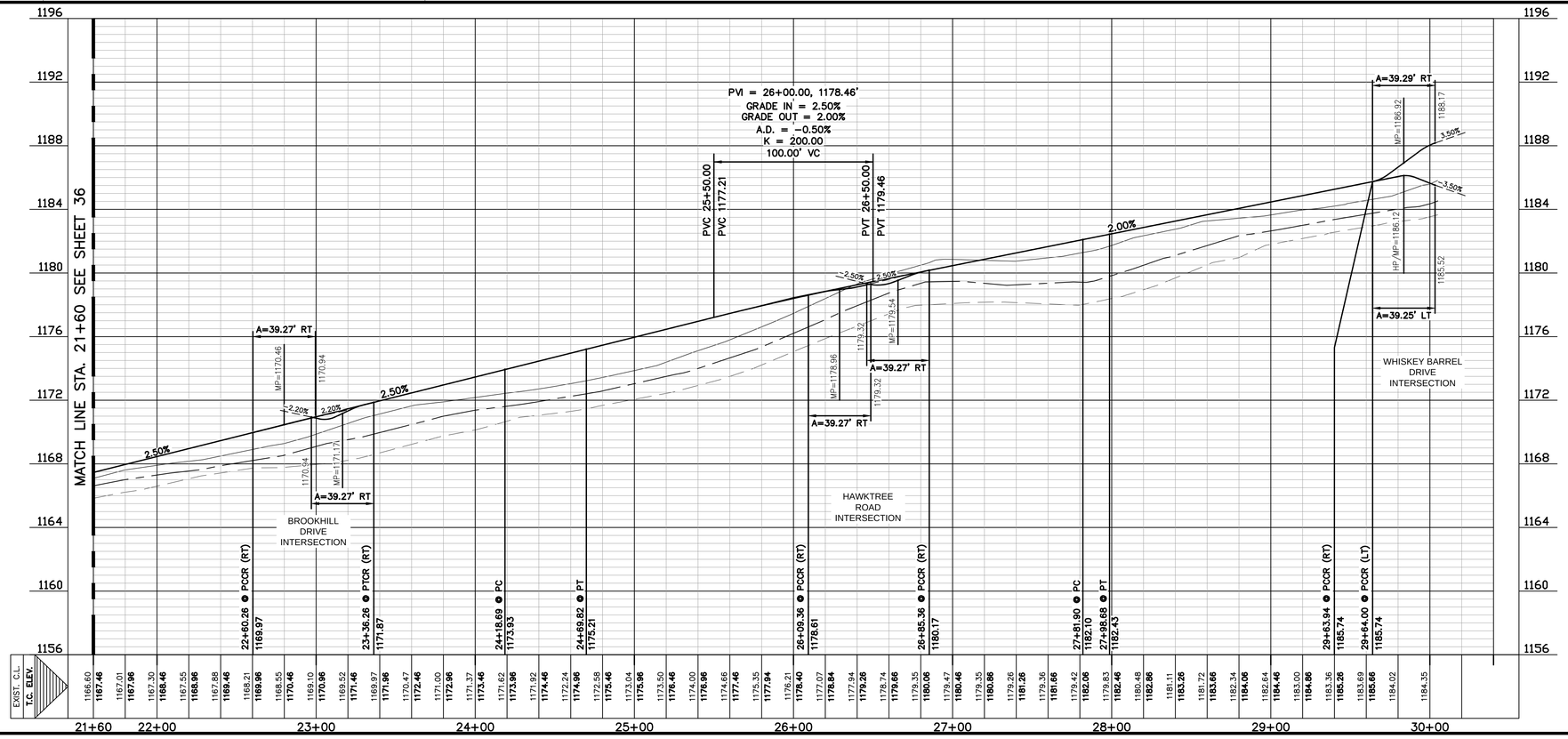
PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ —— — —— PROPOSED T/C LT. & RT. ————



CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C58	25.00'	24.98'	089°57'04"	35.34'	39.25'
C59	25.00'	25.02'	090°02'56"	35.37'	39.29'
C115	25.00'	25.00'	090°00'00"	35.36'	39.27'
C116	25.00'	25.00'	090°00'00"	35.36'	39.27'
C117	313.00'	26.74'	009°45'53"	53.28'	53.34'
C118	300.00'	25.63'	009°45'53"	51.07'	51.13'
C119	287.00'	24.52'	009°45'53"	48.85'	48.91'
C120	25.00'	25.00'	090°00'00"	35.36'	39.27'
C121	25.00'	25.00'	090°00'00"	35.36'	39.27'
C122	313.00'	8.76'	003°12'19"	17.51'	17.51'
C123	300.00'	8.39'	003°12'19"	16.78'	16.78'
C124	287.00'	8.03'	003°12'19"	16.05'	16.06'

DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
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Austin, Texas
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North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdengr.com

SHEET NAME: GARDEN SPRING LOOP PLAN & PROFILE (21+60-END)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE June 2023
JOB NUMBER 5079
SHEET 37 OF 162

SUB-STREET.CTB
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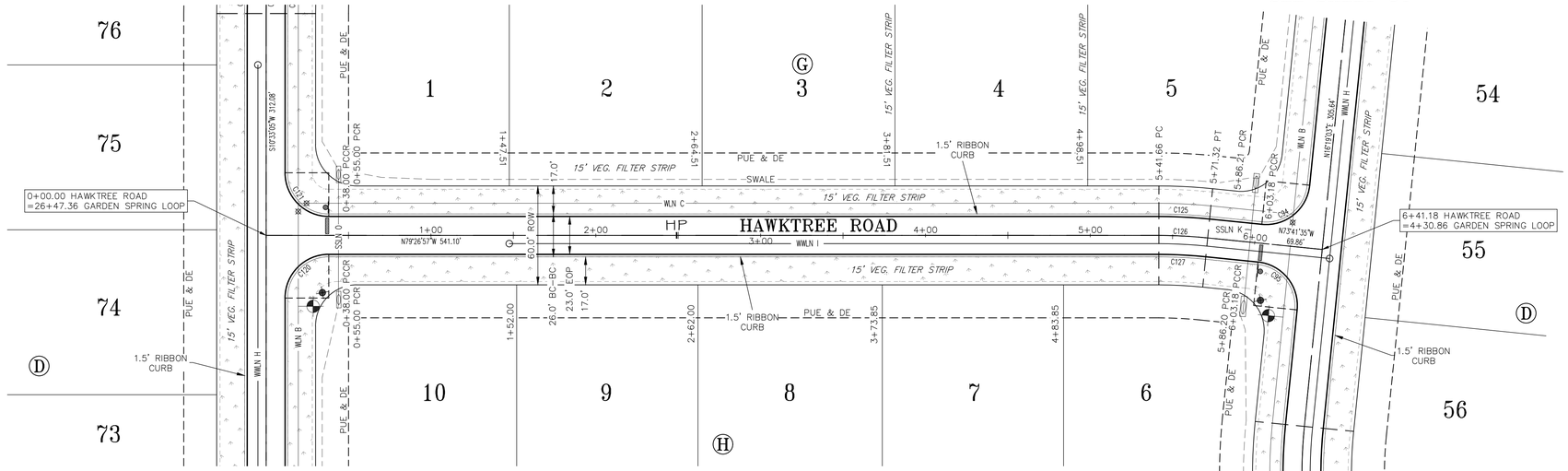


SCALE: 1" = 40'

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C94	25.00'	25.00'	089°59'22"	35.35'	39.27'
C95	25.00'	25.00'	090°00'38"	35.36'	39.27'
C120	25.00'	25.00'	090°00'00"	35.36'	39.27'
C121	25.00'	25.00'	090°00'00"	35.36'	39.27'

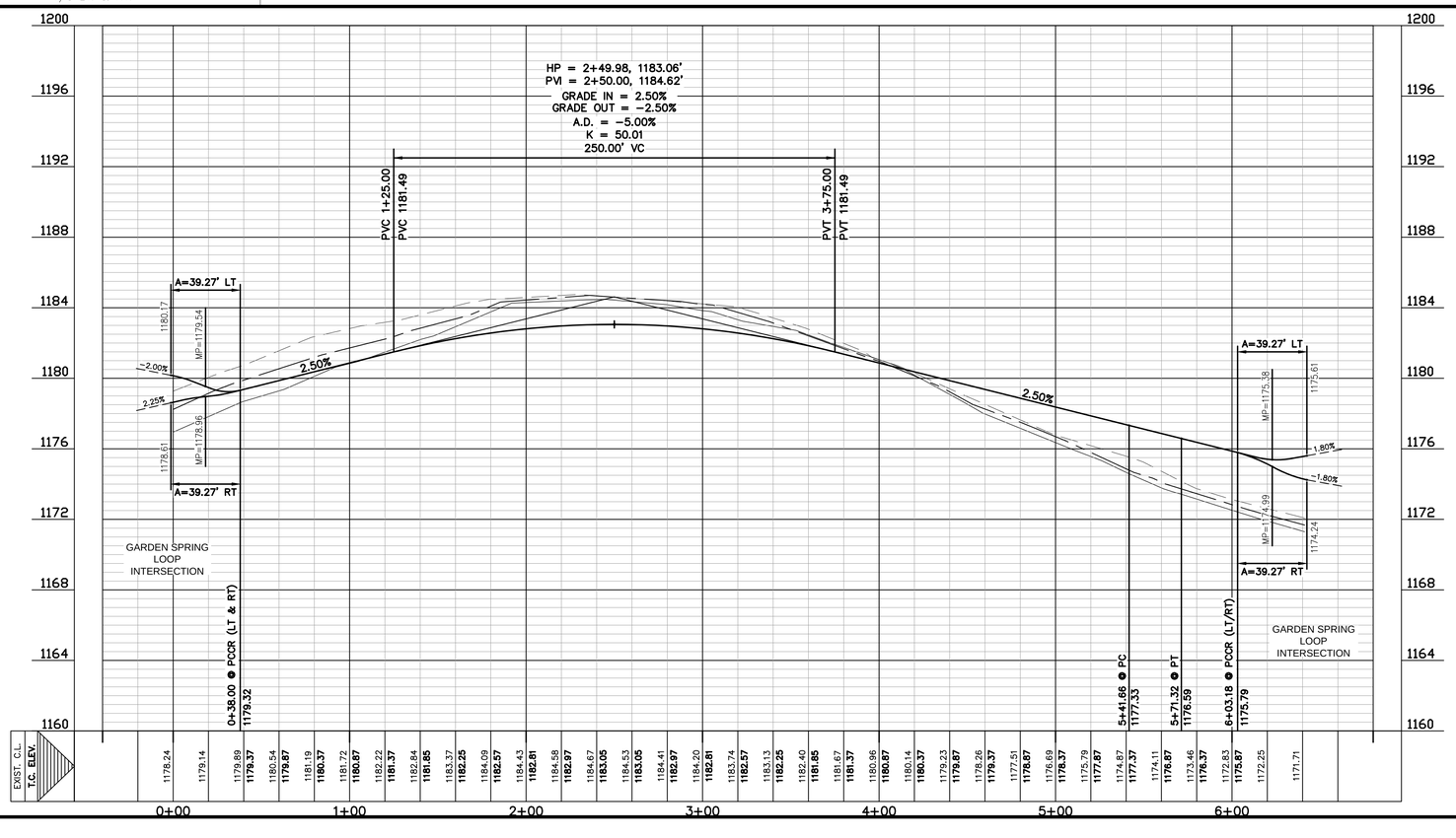
CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C125	313.00'	15.73'	005°45'20"	31.43'	31.44'
C126	300.00'	14.84'	005°66'55"	29.65'	29.66'
C127	287.00'	14.43'	005°45'20"	28.82'	28.83'

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ ——— PROPOSED T/C LT. & RT. ————



DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE

REVISION

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Phone No. (512) 280-5160
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SHEET NAME: HAWKTREE ROAD PLAN & PROFILE (0+00-END)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

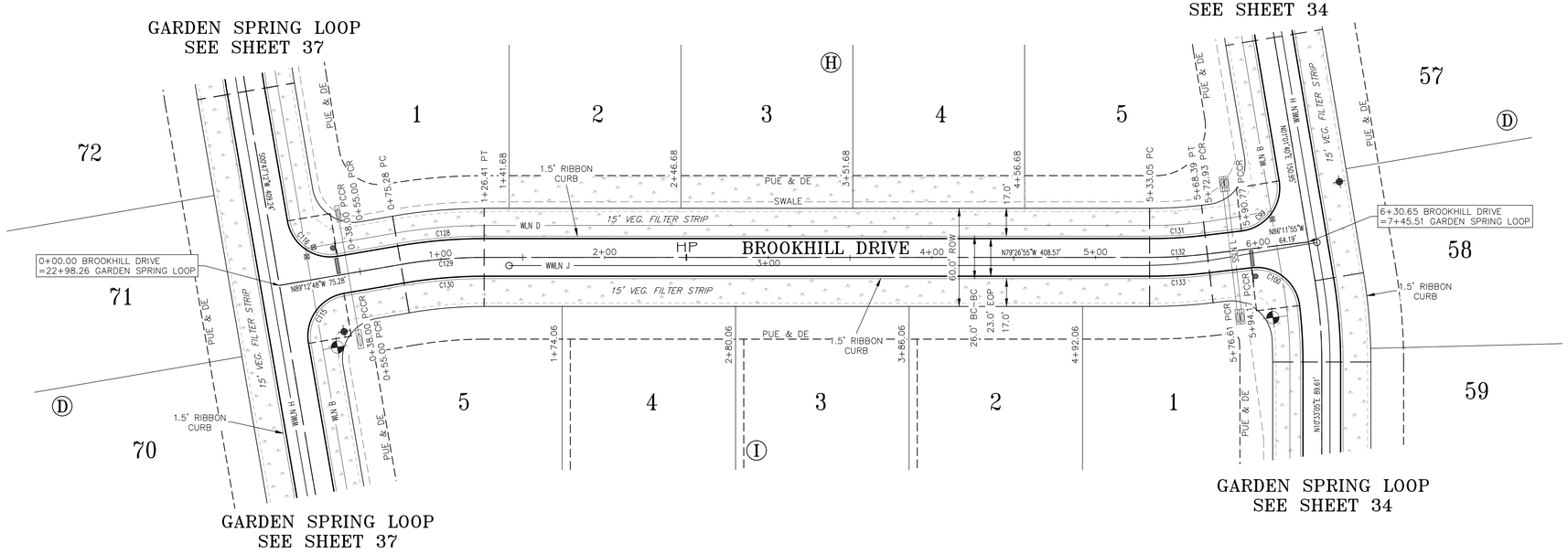
DATE: June 2023

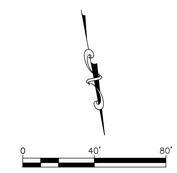
JOB NUMBER: 5079

SHEET: 38 OF 162

SUB-STREET.CTB

FILE PATH: J:\AC3D\5079\dwg\Construction Plans\5079-STREET P&P 1.dwg - Jun 14, 2023 - 9:20am





SCALE: 1" = 40'

LEGEND

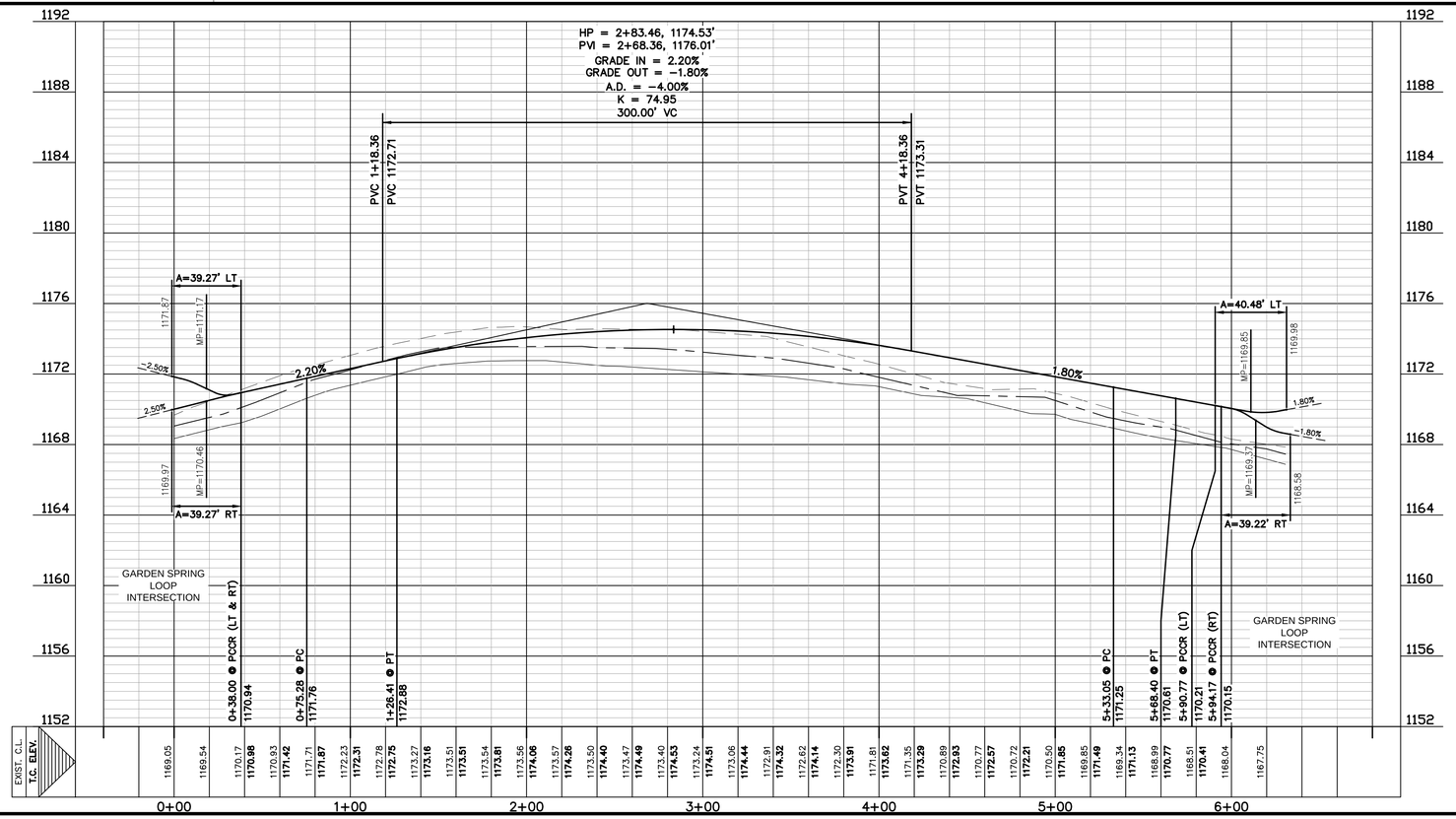
- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ —— — —— PROPOSED T/C LT. & RT. ————



CURVE TABLE

Curve #	Radius	Tangent	Delta	Chord	Arc Length
C99	25.00'	26.24'	092°46'26"	36.20'	40.48'
C100	25.00'	24.95'	089°53'08"	35.32'	39.22'
C115	25.00'	25.00'	090°00'00"	35.36'	39.27'
C116	25.00'	25.00'	090°00'00"	35.36'	39.27'
C128	313.00'	26.74'	009°45'53"	53.28'	53.34'
C129	300.00'	25.63'	009°45'53"	51.07'	51.13'
C130	287.00'	24.52'	009°45'53"	48.85'	48.91'
C131	287.00'	16.93'	006°45'00"	33.79'	33.81'
C132	300.00'	17.69'	006°45'00"	35.32'	35.34'
C133	313.00'	18.46'	006°45'00"	36.85'	36.87'

DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

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SHEET NAME: BROOKHILL DRIVE PLAN & PROFILE (0+00-END)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 39 OF 162

SUB:STREET.CTB

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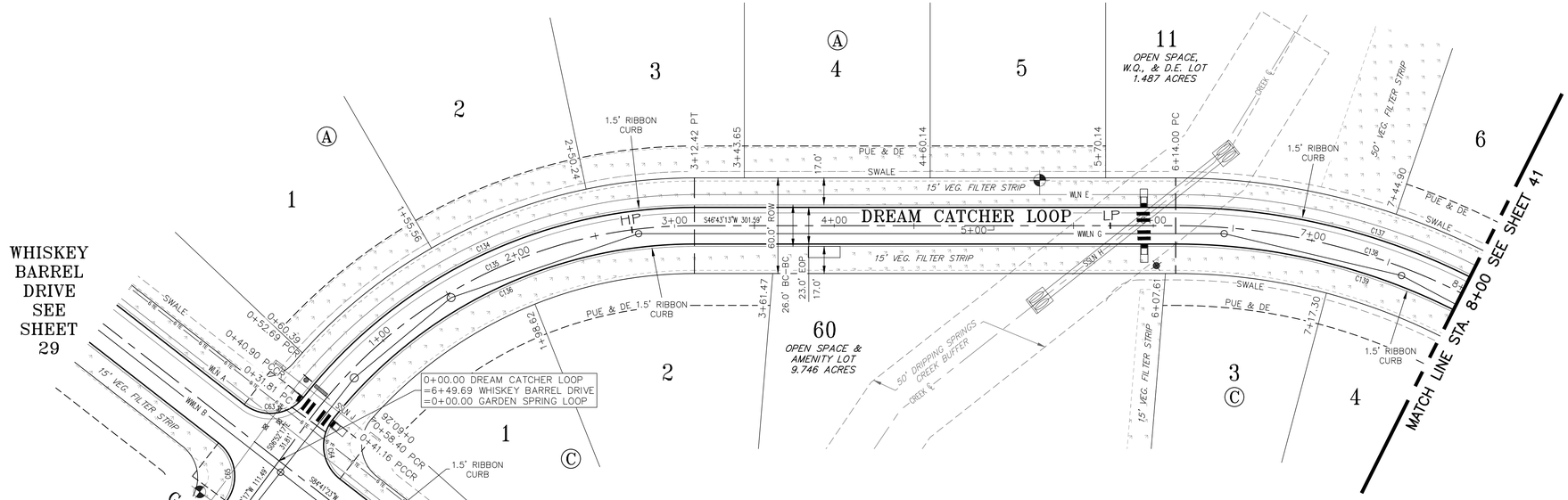
SUB-STREET.CTB



SCALE: 1" = 40'

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C63	25.00'	24.92'	089°49'33"	35.30'	39.19'
C64	25.00'	25.10'	090°13'29"	35.42'	39.37'
C65	25.00'	24.33'	088°26'20"	34.87'	38.59'
C66	25.00'	25.69'	091°33'40"	35.83'	39.95'
C134	313.00'	152.17'	051°51'23"	273.71'	283.28'

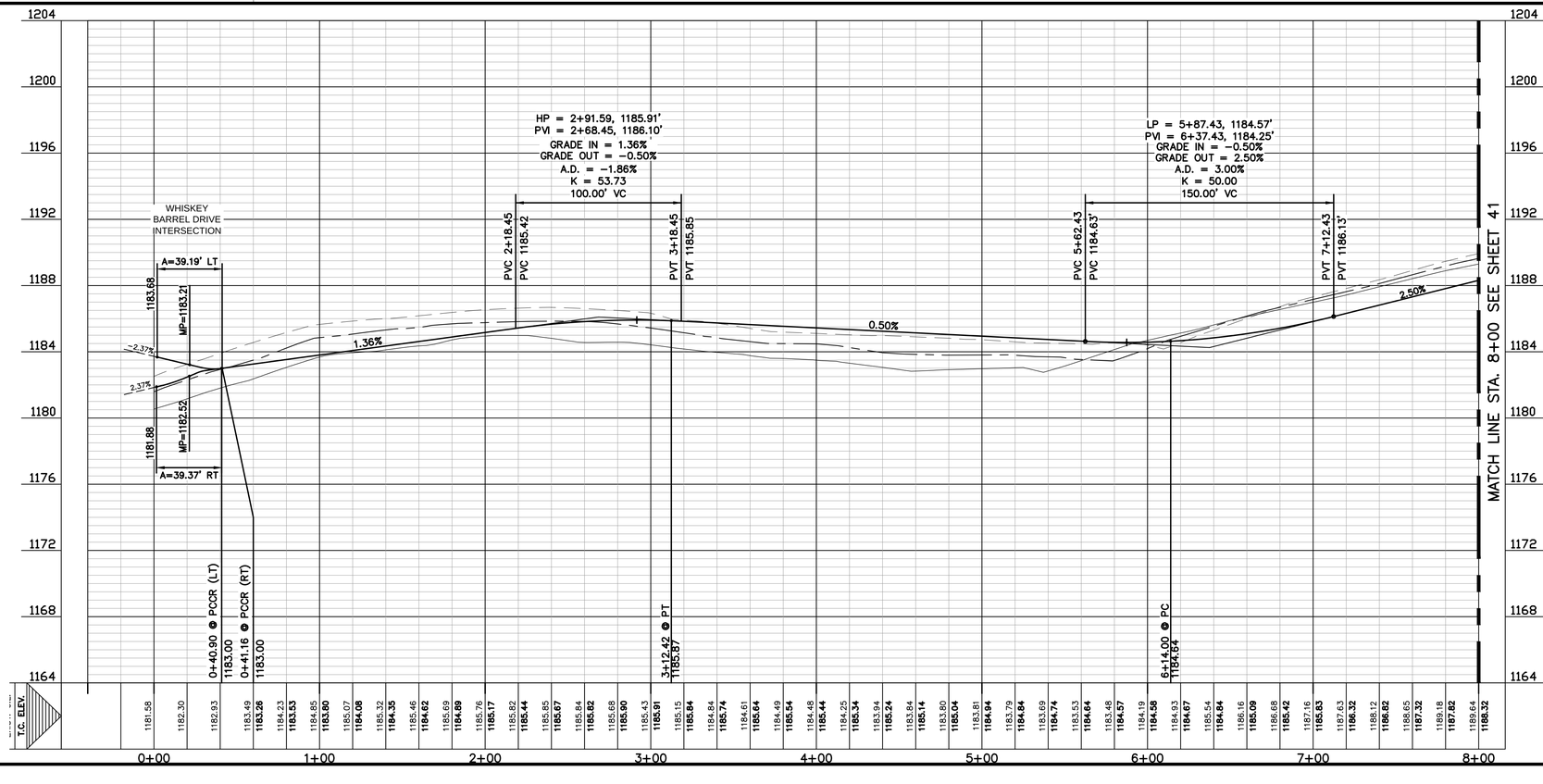
CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C135	300.00'	151.51'	053°35'30"	270.49'	280.61'
C136	287.00'	139.38'	051°48'21"	250.75'	259.50'
C137	413.00'	158.82'	042°04'09"	296.48'	303.24'
C138	400.00'	153.82'	042°04'09"	287.15'	293.70'
C139	387.00'	148.82'	042°04'09"	277.81'	284.15'

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ ——— PROPOSED T/C LT. & RT. ————



DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE

REVISION

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SHEET NAME: DREAM CATCHER LOOP PLAN & PROFILE (0+00-8+00)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 40 OF 162

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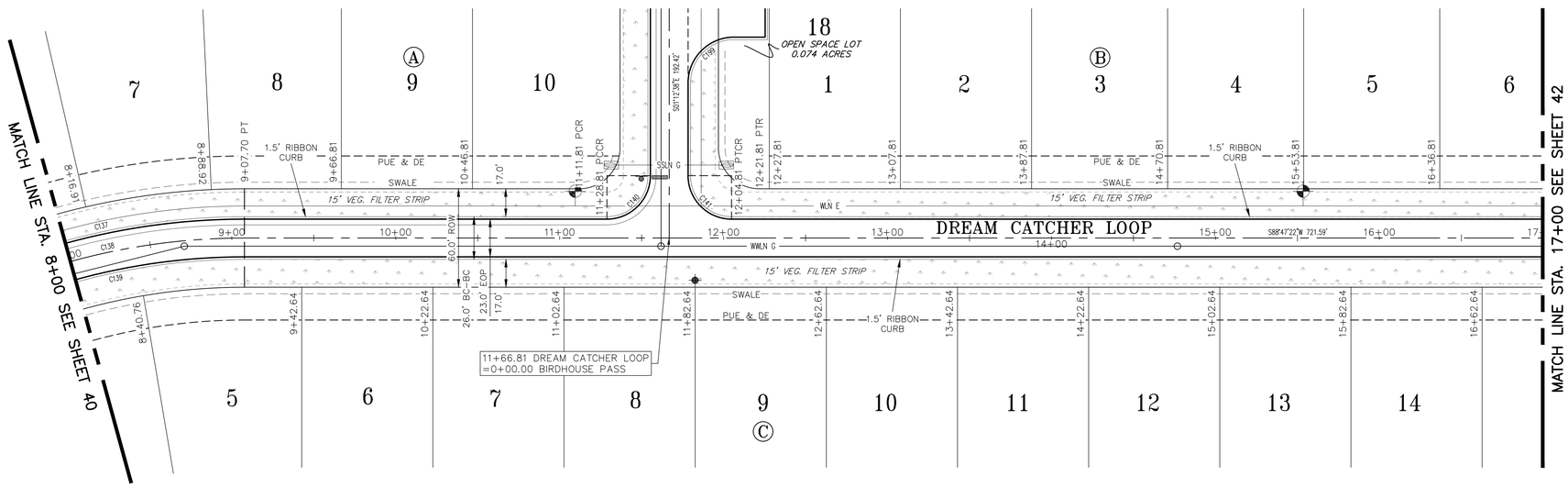
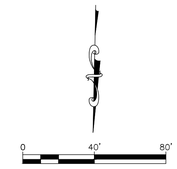
SUB:STREET.CTB





SCALE: 1" = 40'

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

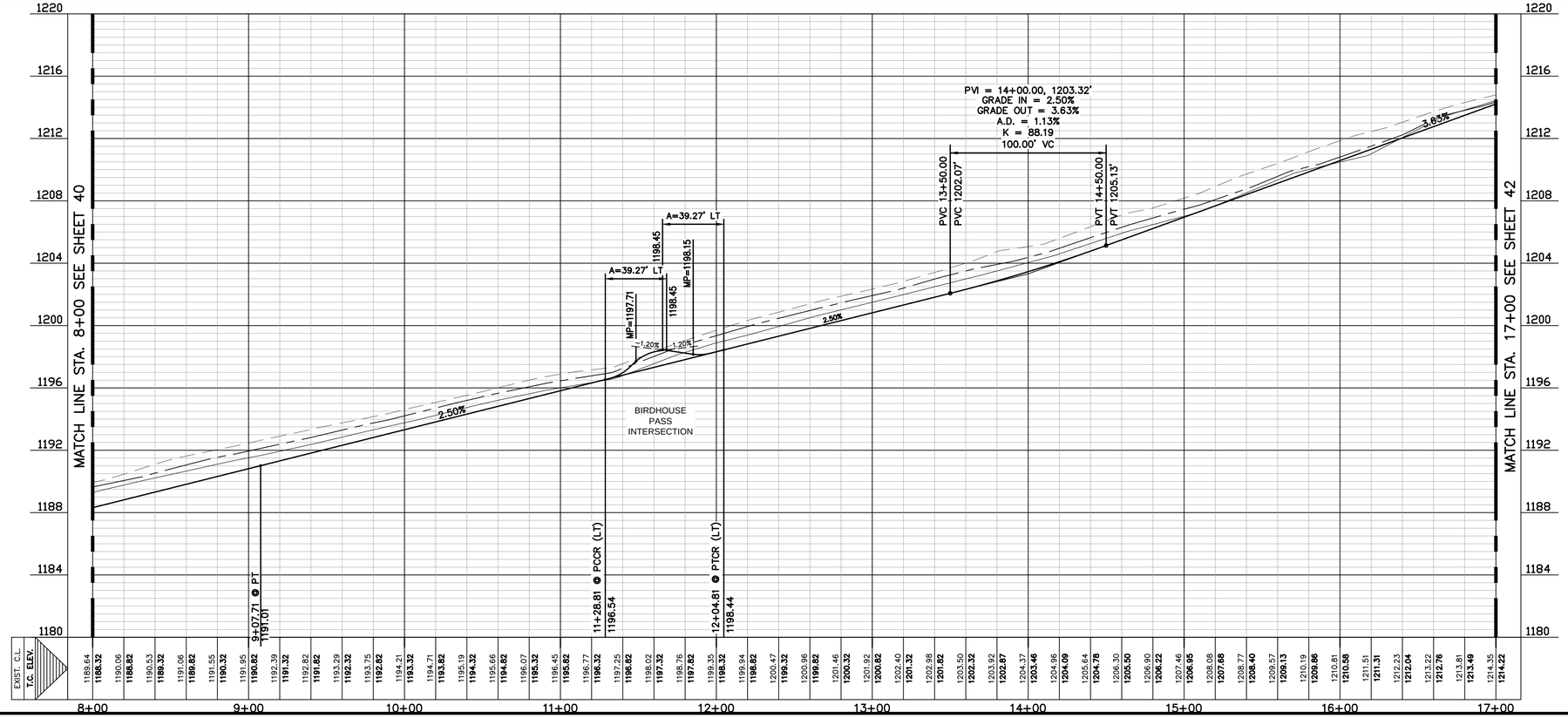
CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C137	413.00'	158.82'	042°04'09"	296.48'	303.24'
C138	400.00'	153.82'	042°04'09"	287.15'	293.70'
C139	387.00'	148.82'	042°04'09"	277.81'	284.15'
C140	25.00'	25.00'	090°00'00"	35.36'	39.27'
C141	25.00'	25.00'	090°00'00"	35.36'	39.27'

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ——— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ — — — PROPOSED T/C LT. & RT. ———



DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
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Main Office
5501 West William Cannon Dr.
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Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdengr.com

SHEET NAME: DREAM CATCHER LOOP PLAN & PROFILE (8+00-17+00)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 41 OF 162

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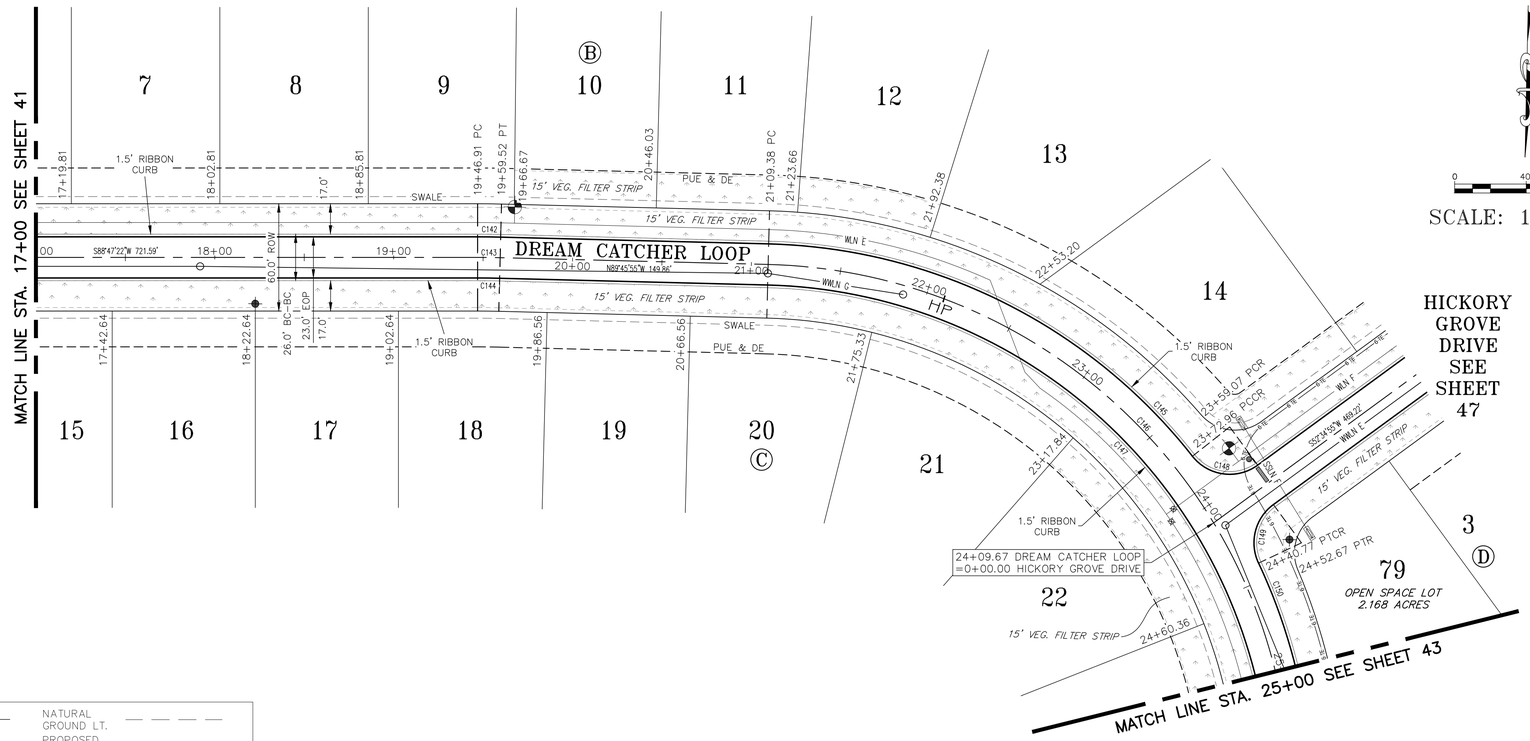


LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

NOTES:

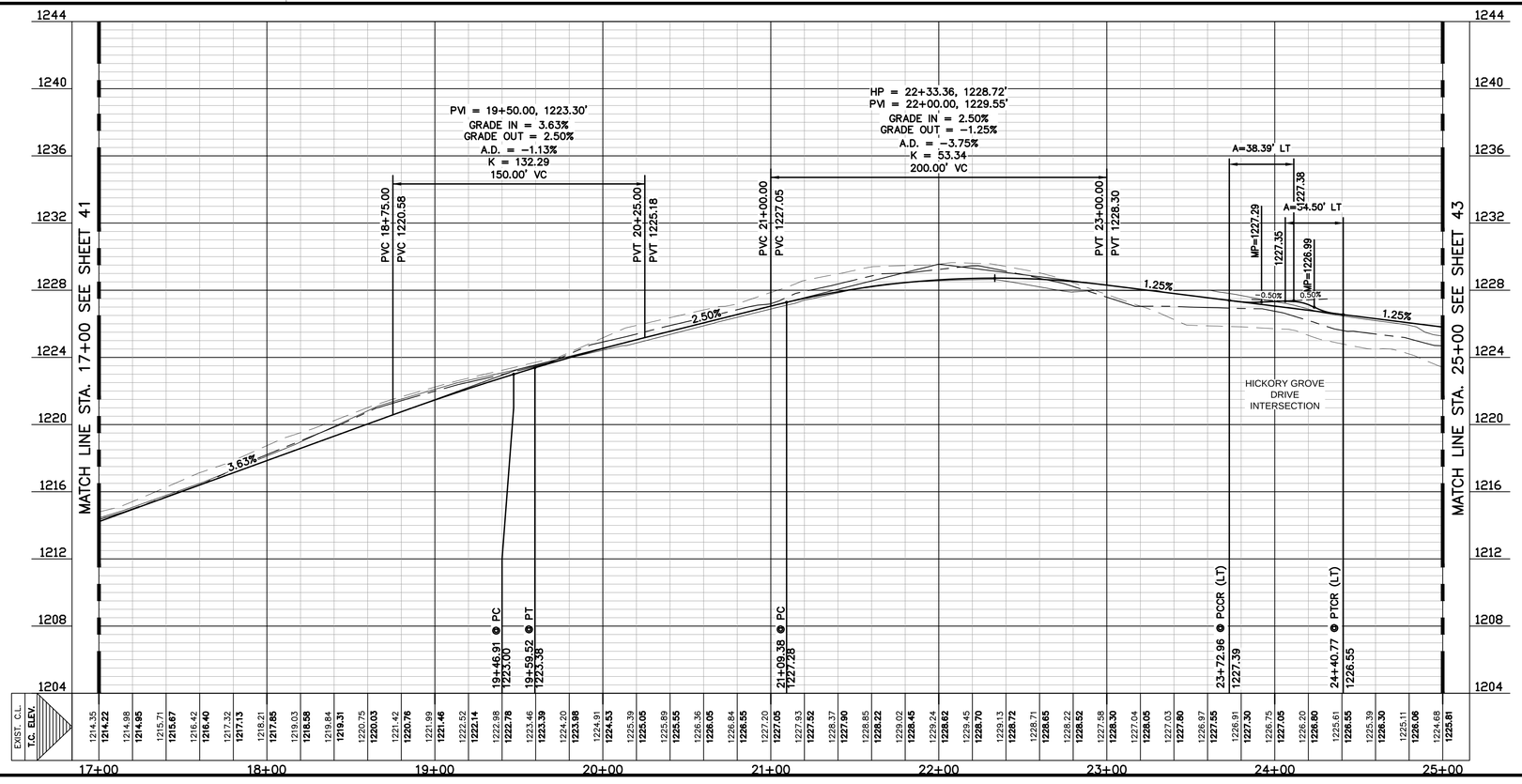
1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

CURVE TABLE

Curve #	Radius	Tangent	Delta	Chord	Arc Length
C142	513.00'	6.47'	001°26'43"	12.94'	12.94'
C143	500.00'	6.31'	001°26'43"	12.61'	12.61'
C144	487.00'	6.14'	001°26'43"	12.29'	12.29'
C145	313.00'	147.09'	050°20'26"	266.24'	275.00'
C146	300.00'	496.70'	117°44'13"	513.59'	616.47'
C147	287.00'	475.17'	117°44'13"	491.33'	589.76'
C148	25.00'	24.14'	087°59'36"	34.73'	38.39'
C149	25.00'	20.63'	079°03'24"	31.82'	34.50'
C150	313.00'	161.02'	054°26'47"	286.37'	297.43'

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ——— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ —— — —— PROPOSED T/C LT. & RT. ———



Carlson, Brigance & Doering, Inc.
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North Office
12129 RR 620 N., Ste. 600 Austin, Texas 78750
www.cbdengr.com

DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

SHEET NAME: DREAM CATCHER LOOP PLAN & PROFILE (17+00-25+00)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 42 OF 162

SUB-STREET.CTB

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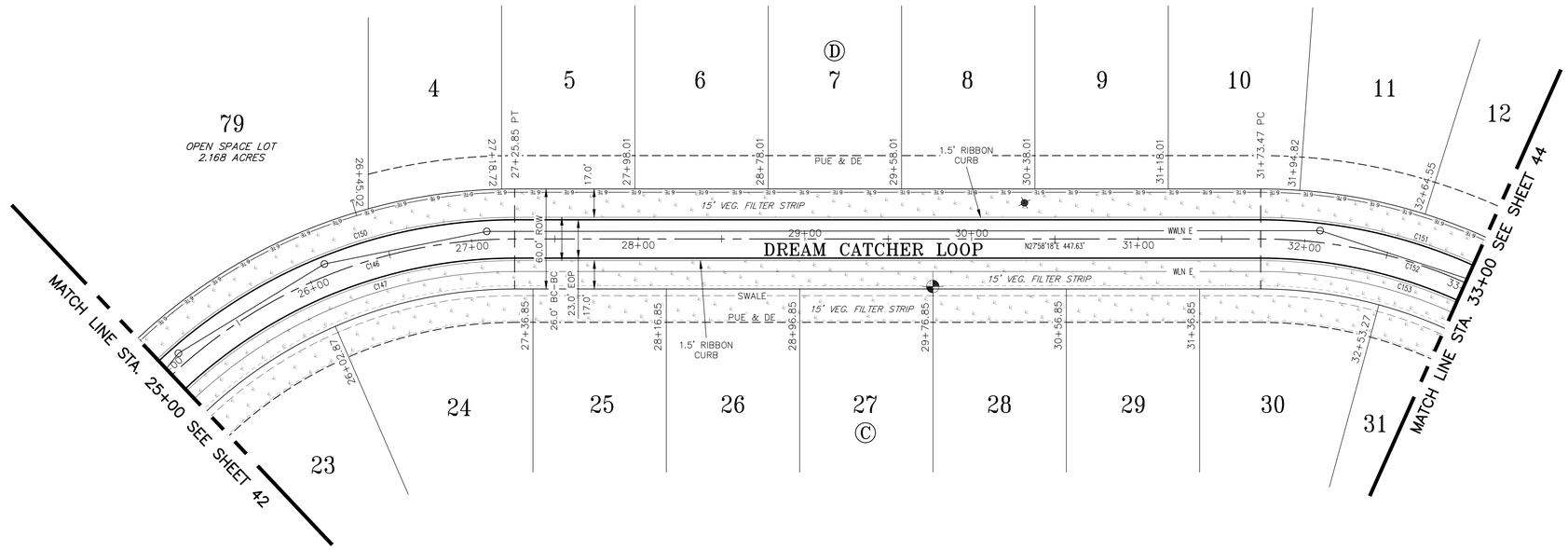


SCALE: 1" = 40'

LEGEND	
	SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
	STREET LIGHT LOCATION
	STOP SIGN/STREET SIGN
	STOP BAR
LP/HP	LOWPOINT/HIGHPOINT
C5	CURVE NUMBER
6 TE	6" TREATED EFFLUENT

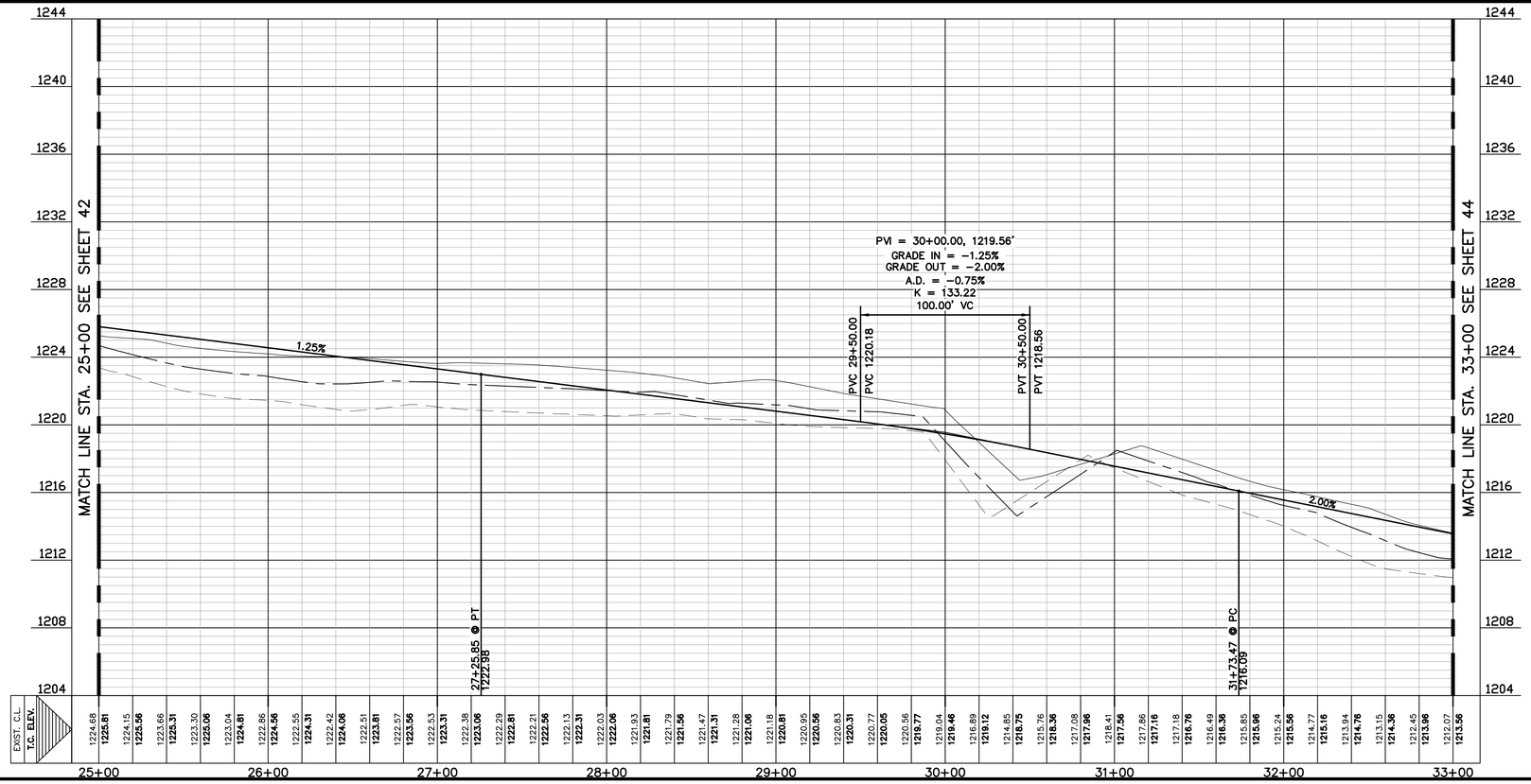
CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C146	300.00'	496.70'	117°44'13"	513.59'	616.47'
C147	287.00'	475.17'	117°44'13"	491.33'	589.76'
C150	313.00'	161.02'	054°26'47"	286.37'	297.43'
C151	313.00'	124.55'	043°23'53"	231.45'	237.08'
C152	300.00'	267.62'	083°28'16"	399.42'	437.05'
C153	287.00'	256.03'	083°28'16"	382.11'	418.11'

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ —— – —— PROPOSED T/C LT. & RT. ————



DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
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Austin, Texas 78750
www.cbdeng.com

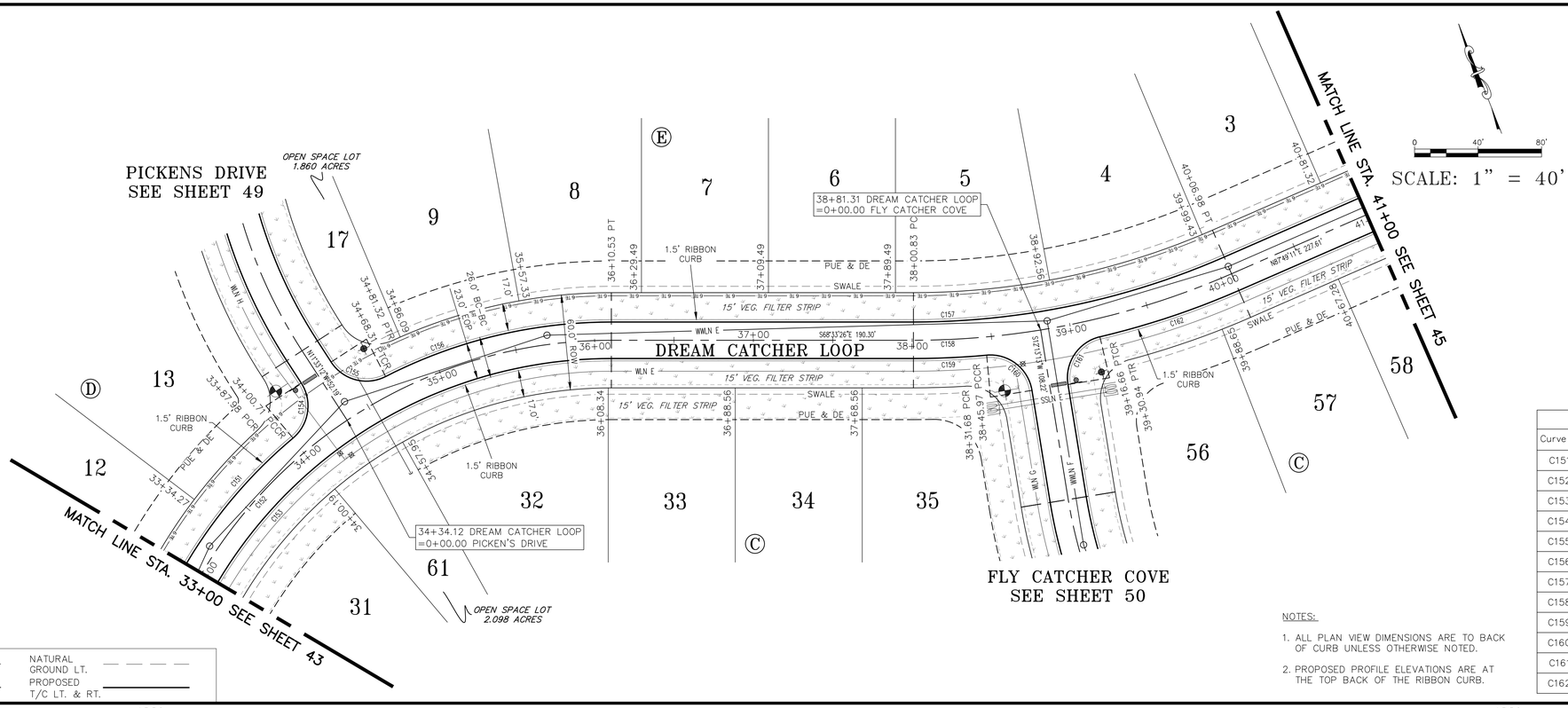
SHEET NAME: DREAM CATCHER LOOP PLAN & PROFILE (25+00-33+00)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

QUYNN DUSEK 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 43 OF 162

SUB:STREET.CTB

FILE PATH: J:\ACAD\5079\dwg\Construction Plans\5079-STREET P&P 2.dwg - Jun 14, 2023 - 9:23am



LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

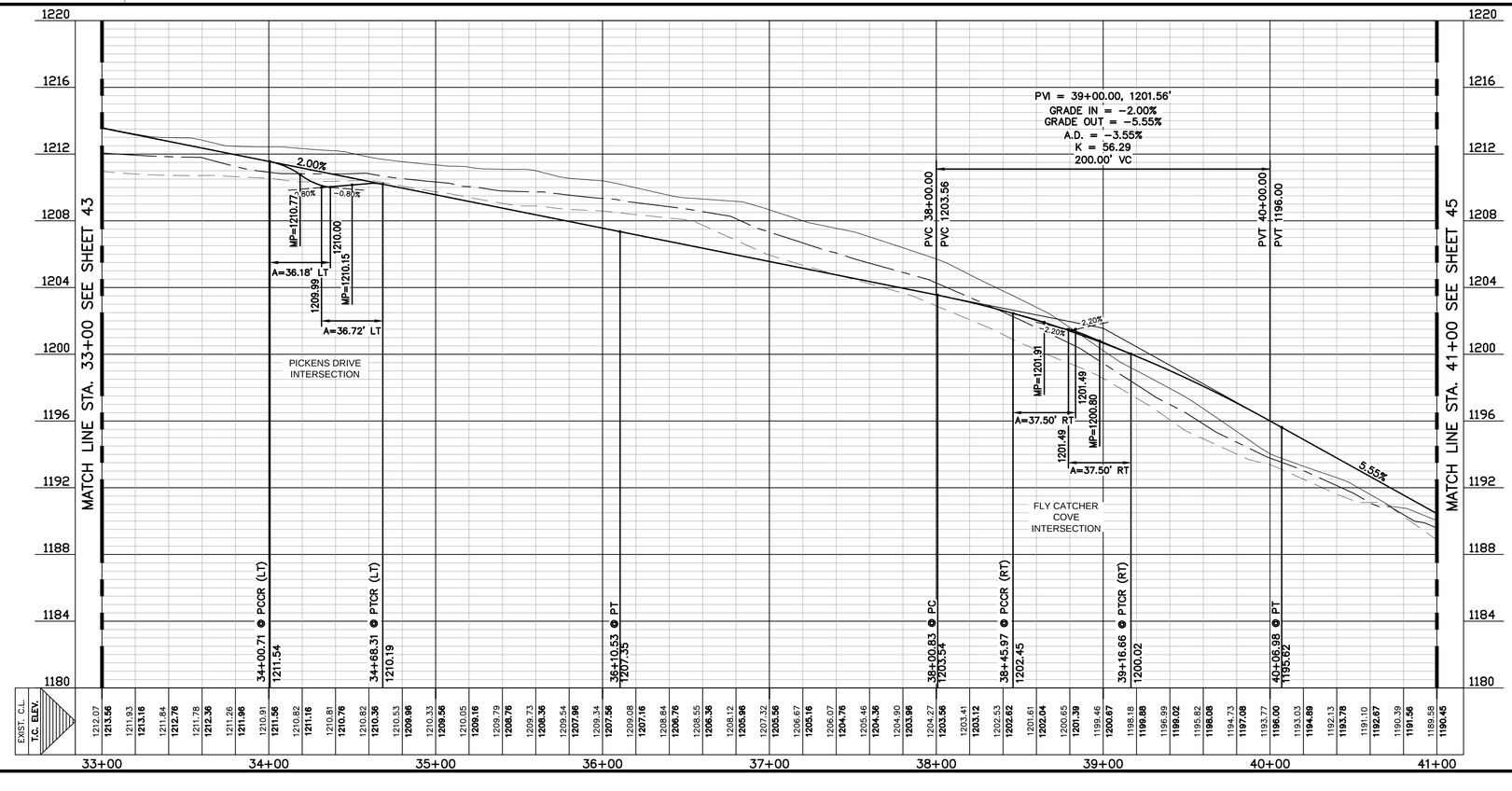
NATURAL GROUND RT. ——— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ ——— — ——— PROPOSED T/C LT. & RT. ———

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

CURVE TABLE

Curve #	Radius	Tangent	Delta	Chord	Arc Length
C151	313.00'	124.55'	043°23'53"	231.45'	237.08'
C152	300.00'	267.62'	083°28'16"	399.42'	437.05'
C153	287.00'	256.03'	083°28'16"	382.11'	418.11'
C154	25.00'	22.09'	082°55'23"	33.11'	36.18'
C155	25.00'	22.58'	084°09'57"	33.51'	36.72'
C156	313.00'	75.61'	027°09'43"	147.00'	148.38'
C157	487.00'	101.84'	023°37'23"	199.37'	200.79'
C158	500.00'	104.56'	023°37'23"	204.69'	206.15'
C159	513.00'	23.17'	005°10'20"	46.29'	46.31'
C160	25.00'	23.29'	085°56'59"	34.08'	37.50'
C161	25.00'	23.29'	085°56'59"	34.08'	37.50'
C162	513.00'	46.46'	010°21'01"	92.55'	92.67'



DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
Phone No.: (512) 280-5160
Main Office
5501 West William Cannon Dr.
Austin, Texas 78749
Phone No.: (512) 280-5160
www.cbdengr.com

SHEET NAME: DREAM CATCHER LOOP PLAN & PROFILE (33+00-41+00)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS — QUYNN DUSEK — 130416 — LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC. ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 44 OF 162

SUB:STREET.CTB

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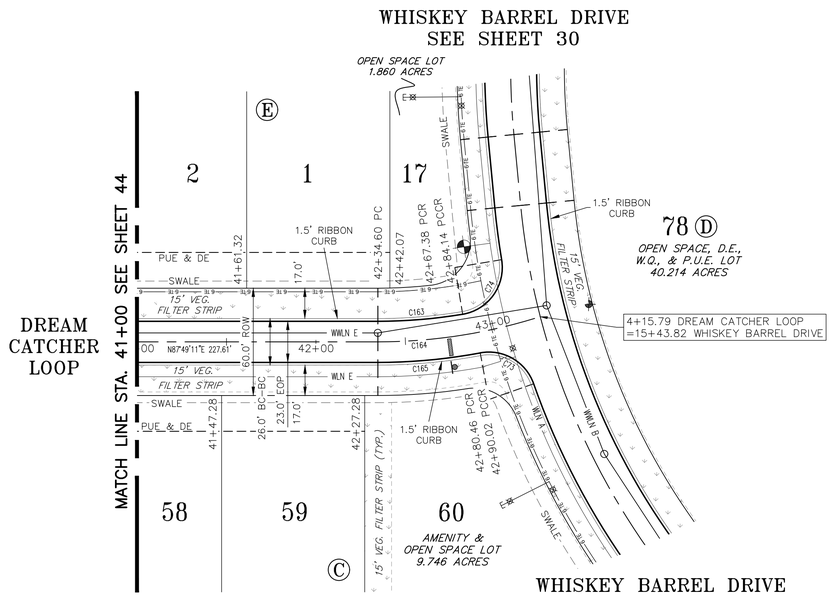
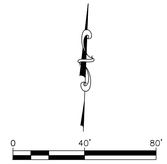
SUB-STREET.CTB



CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C73	25.00'	21.42'	081°10'31"	32.53'	35.42'
C74	25.00'	25.01'	090°02'01"	35.37'	39.28'
C163	287.00'	23.75'	009°27'43"	47.34'	47.40'
C164	300.00'	44.80'	016°59'09"	88.61'	88.94'
C165	313.00'	29.00'	010°35'10"	57.75'	57.83'

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT



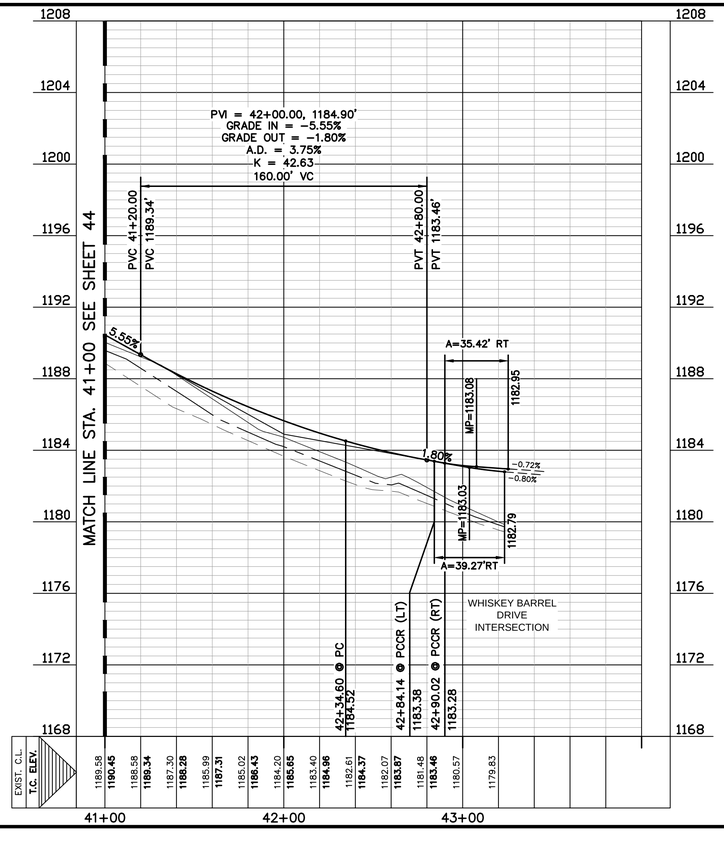
SCALE: 1" = 40'

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ — — — — PROPOSED T/C LT. & RT. ————



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DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

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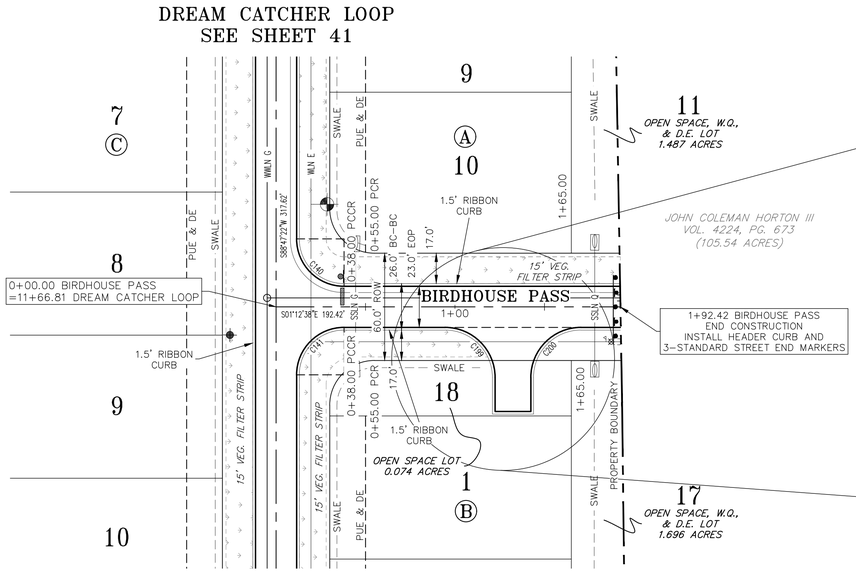
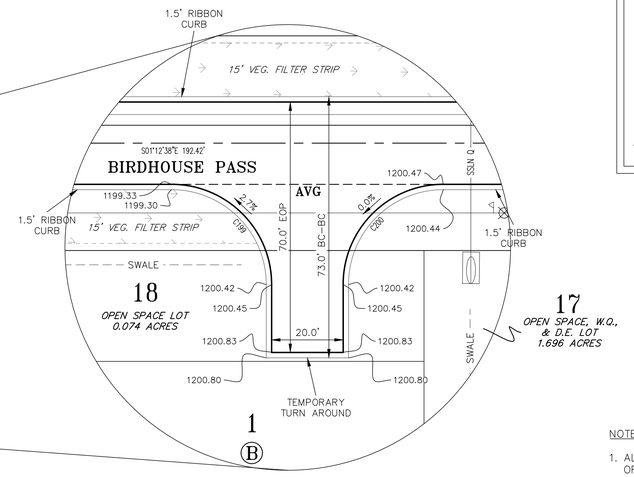
www.cbdeng.com

SHEET NAME: DREAM CATCHER LOOP PLAN & PROFILE (41+00-END)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

QUYNN DUSEK
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 45 OF 162





TEMPORARY TURN AROUND

SCALE: 1"=20'

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

0 40' 80'

SCALE: 1" = 40'

NOTES:

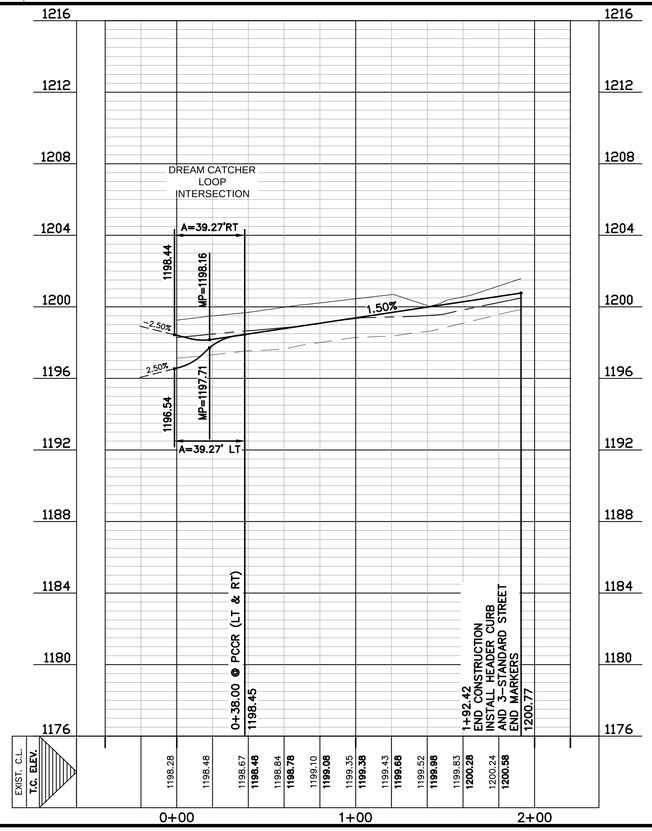
1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C140	25.00'	25.00'	090°00'00"	35.36'	39.27'
C141	25.00'	25.00'	090°00'00"	35.36'	39.27'

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C199	26.50'	26.50'	090°00'00"	37.48'	41.63'
C200	26.50'	26.50'	090°00'00"	37.48'	41.63'

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ ——— — ——— PROPOSED T/C LT. & RT. ————



DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
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www.cbdeng.com

SHEET NAME: BIRDHOUSE PASS (0+00-END)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

QUYNN DUSEK 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

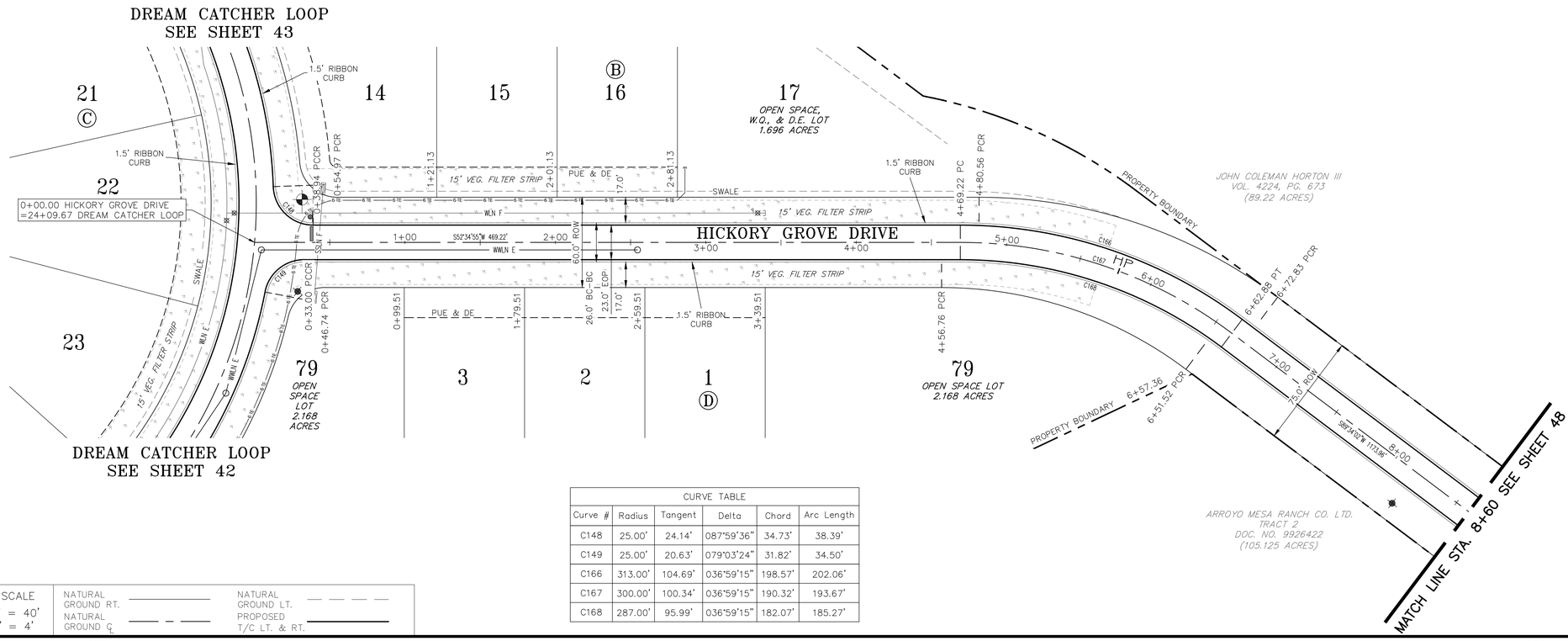
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 46 OF 162

SUB-STREET.CTB



CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C148	25.00'	24.14'	087°59'36"	34.73'	38.39'
C149	25.00'	20.63'	079°03'24"	31.82'	34.50'
C166	313.00'	104.69'	036°59'15"	198.57'	202.06'
C167	300.00'	100.34'	036°59'15"	190.32'	193.67'
C168	287.00'	95.99'	036°59'15"	182.07'	185.27'

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

0 40' 80'

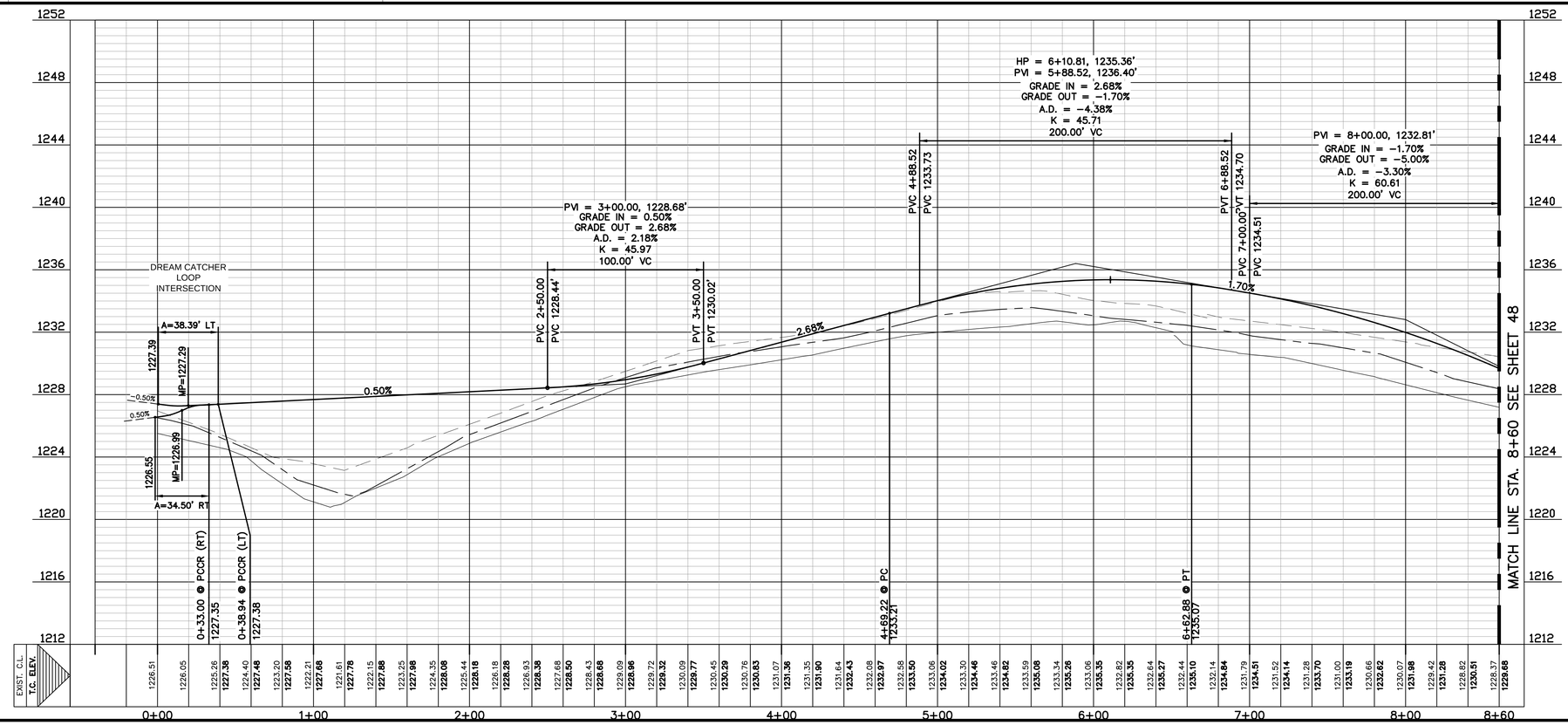
SCALE: 1" = 40'

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ ——— PROPOSED T/C LT. & RT. ————



DESIGNED BY: QD	DRAFTED BY: CJP
DATE	
REVISION	

Carlson, Brigance & Doering, Inc.
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www.cbdeng.com

SHEET NAME: HICKORY GROVE DRIVE (0+00-8+60)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

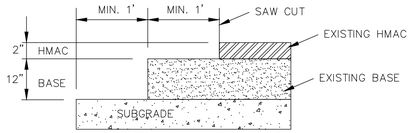
JOB NUMBER: 5079

SHEET: 47 OF 162

FILE PATH: J:\ACAD\5079\dwg\Construction Plans\5079-STREET P&P 2.dwg - Jun 14, 2023 - 9:24am

SUB-STREET.CTB

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C197	25.00'	23.17'	085°39'10"	33.99'	37.37'
C198	25.00'	26.69'	093°45'01"	36.49'	40.91'



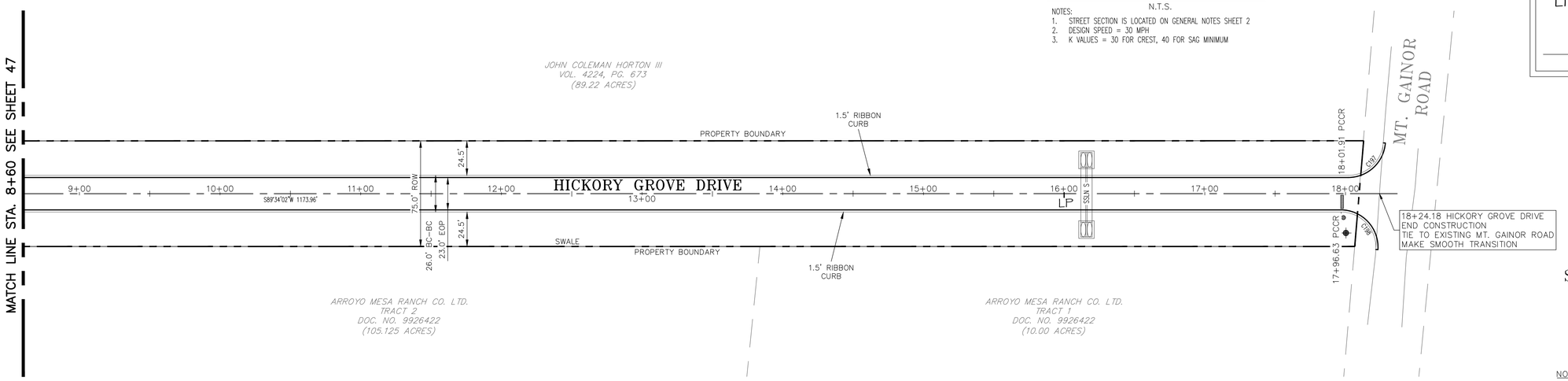
EXISTING TO PROPOSED JOINT

N.T.S.

NOTES:
1. STREET SECTION IS LOCATED ON GENERAL NOTES SHEET 2
2. DESIGN SPEED = 30 MPH
3. K VALUES = 30 FOR CREST, 40 FOR SAG MINIMUM

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT



0 40' 80'

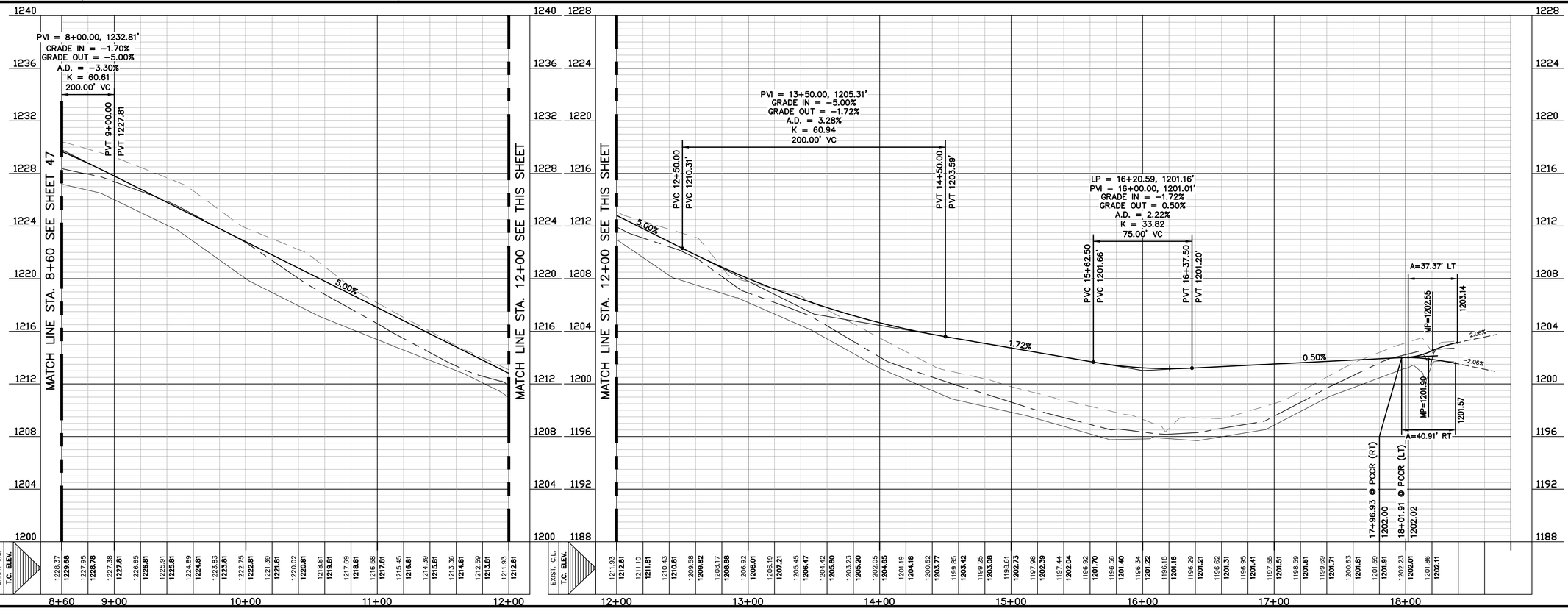
SCALE: 1" = 40'

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ — — — — PROPOSED T/C LT. & RT. ————



DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE

REVISION

Carlson, Brigance & Doering, Inc.
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North Office
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Austin, Texas 78750
www.cbdeng.com

SHEET NAME: HICKORY GROVE DRIVE (8+60-END)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

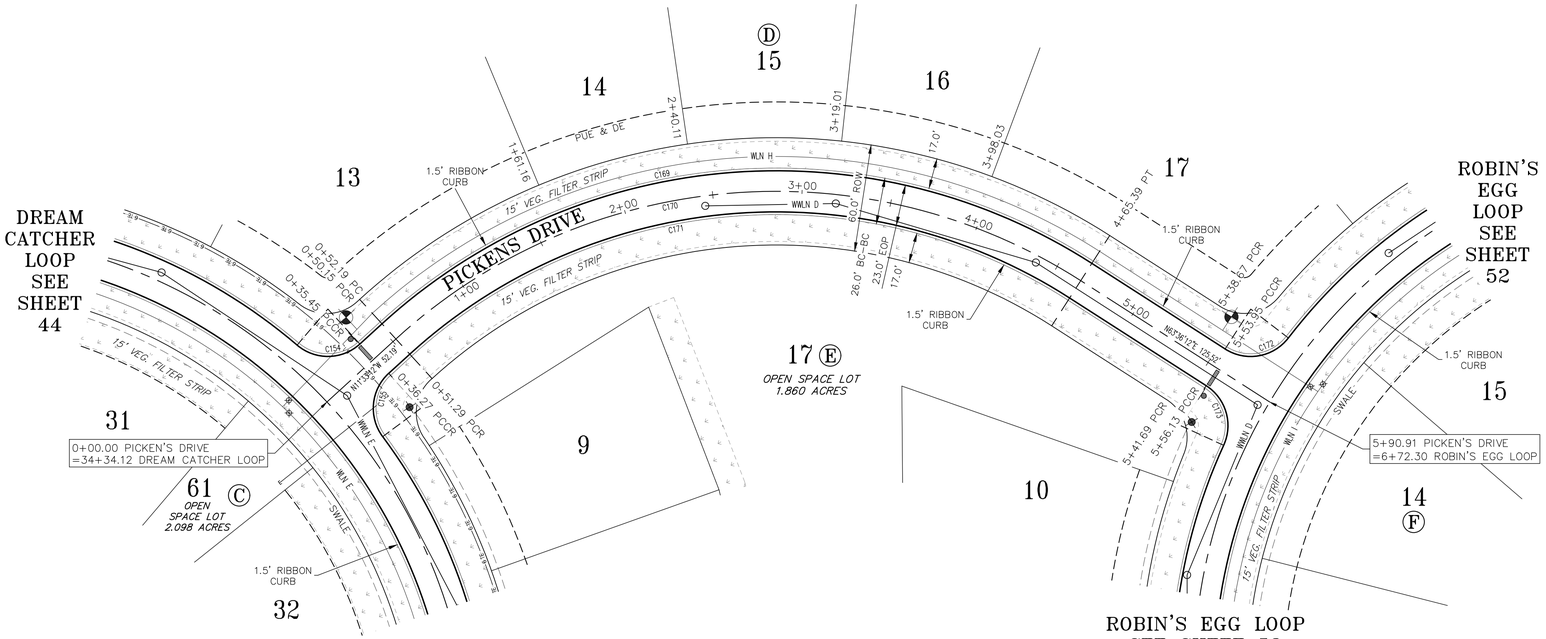
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

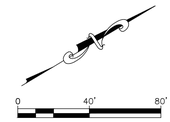
DATE June 2023

JOB NUMBER 5079

SHEET 48 OF 162

FILE PATH:J:\AC2015\079\dwg\Construction Plans\5079-STREET P&P 2.dwg - Jun 14, 2023 - 9:25am





SCALE: 1" = 40'

LEGEND

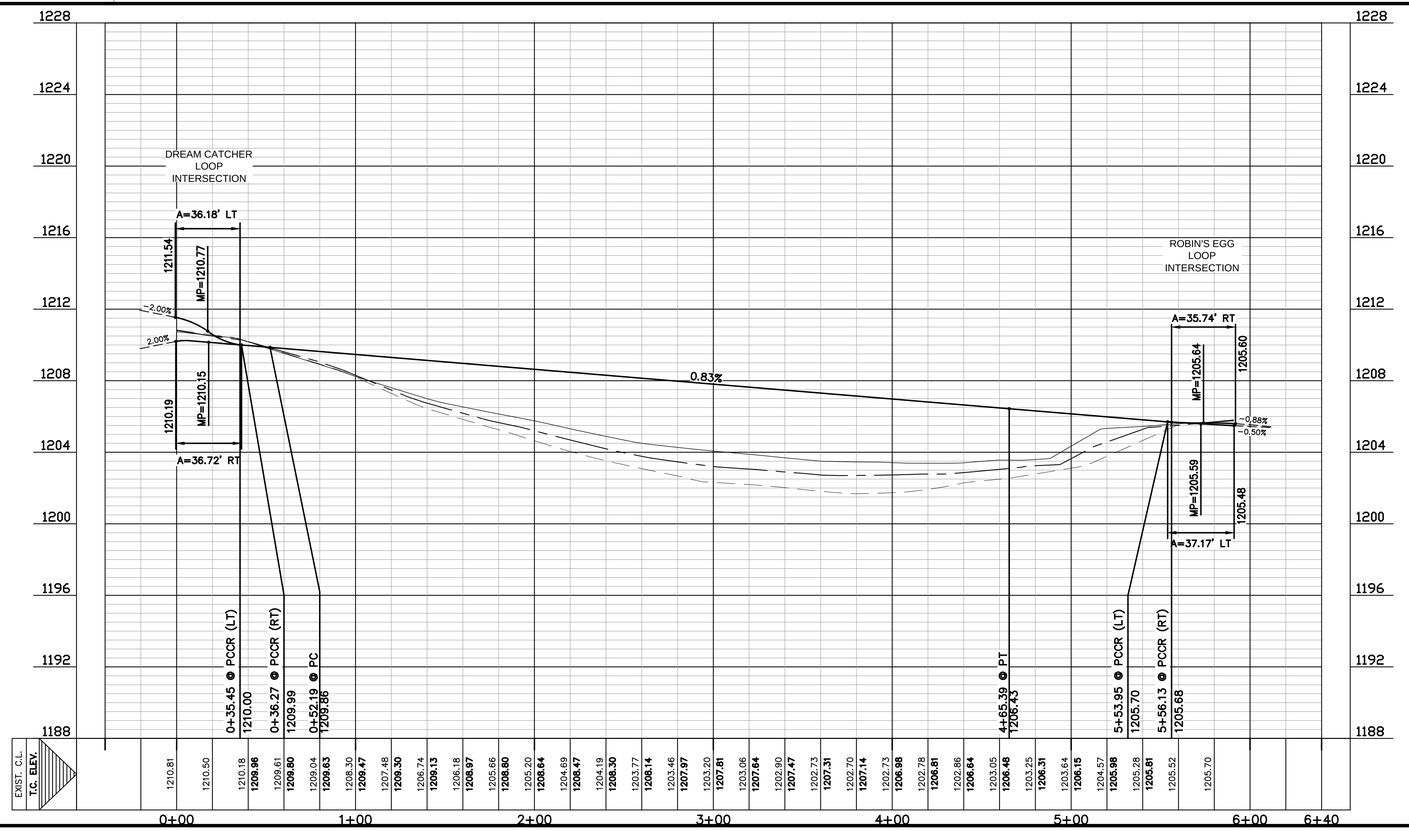
- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ——— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ —— – —— PROPOSED T/C LT. & RT. ———



CURVE TABLE

Curve #	Radius	Tangent	Delta	Chord	Arc Length
C154	25.00'	22.09'	082°55'23"	33.11'	36.18'
C155	25.00'	22.58'	084°09'57"	33.51'	36.72'
C169	328.00'	252.40'	075°09'24"	400.06'	430.25'
C170	315.00'	242.39'	075°09'24"	384.20'	413.20'
C171	302.00'	232.39'	075°09'24"	368.35'	396.14'
C172	25.00'	22.98'	085°11'01"	33.84'	37.17'
C173	25.00'	21.69'	081°54'03"	32.77'	35.74'

DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

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Phone No. (512) 280-5160
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12129 RR 620 N., Ste. 600 Austin, Texas 78750
www.cbdeng.com

SHEET NAME: PICKENS DRIVE (0+00-END)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 49 OF 162

SUB-STREET.CTB

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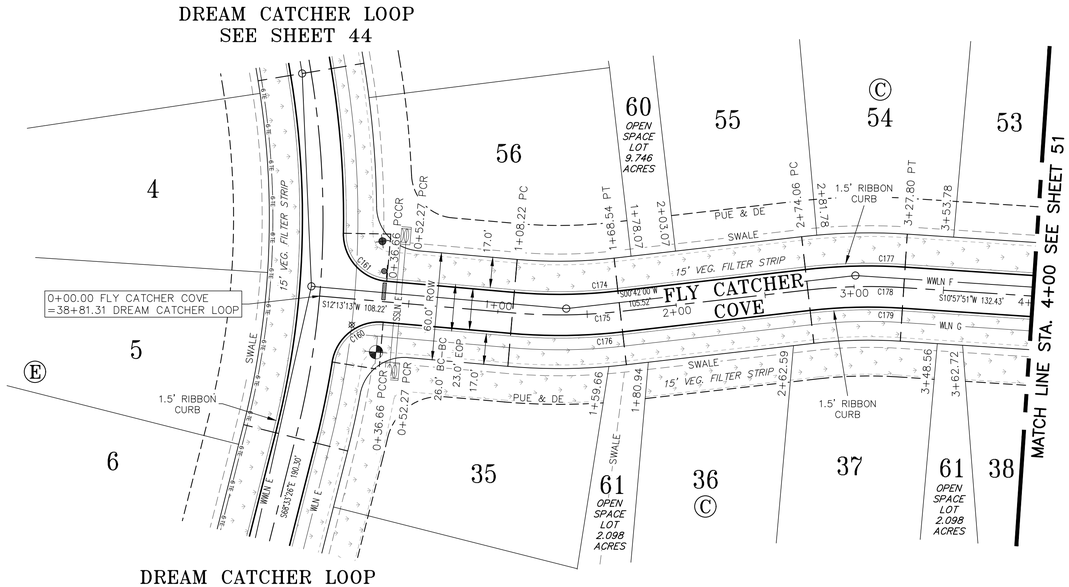
SUB-STREET.CTB



SCALE: 1" = 40'

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

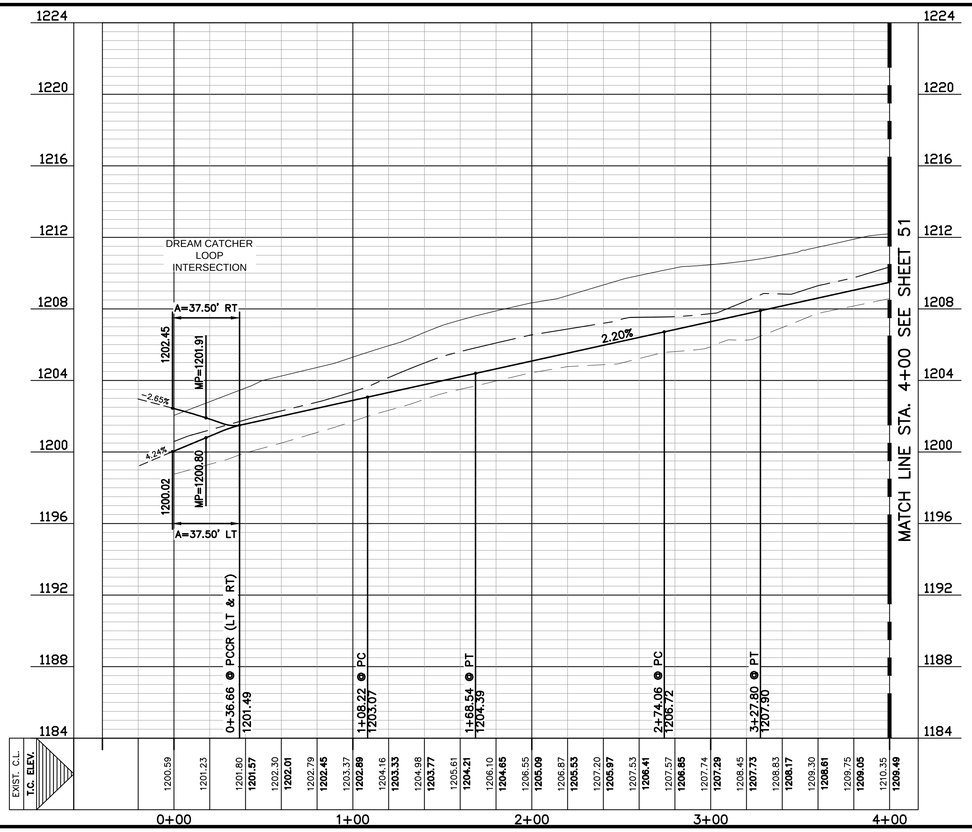
NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C160	25.00'	23.29'	085°56'59"	34.08'	37.50'
C161	25.00'	23.29'	085°56'59"	34.08'	37.50'
C174	287.00'	28.95'	011°31'13"	57.61'	57.71'
C175	300.00'	30.26'	011°31'13"	60.22'	60.32'
C176	313.00'	31.57'	011°31'13"	62.83'	62.93'
C177	313.00'	28.11'	010°15'51"	56.00'	56.07'
C178	300.00'	26.94'	010°15'51"	53.67'	53.74'
C179	287.00'	25.78'	010°15'51"	51.35'	51.41'

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ ——— — ——— PROPOSED T/C LT. & RT. ————



DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
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FIRM ID #F3791
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www.cbdengr.com

SHEET NAME: FLY CATCHER COVE (0+00-4+00)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 50 OF 162

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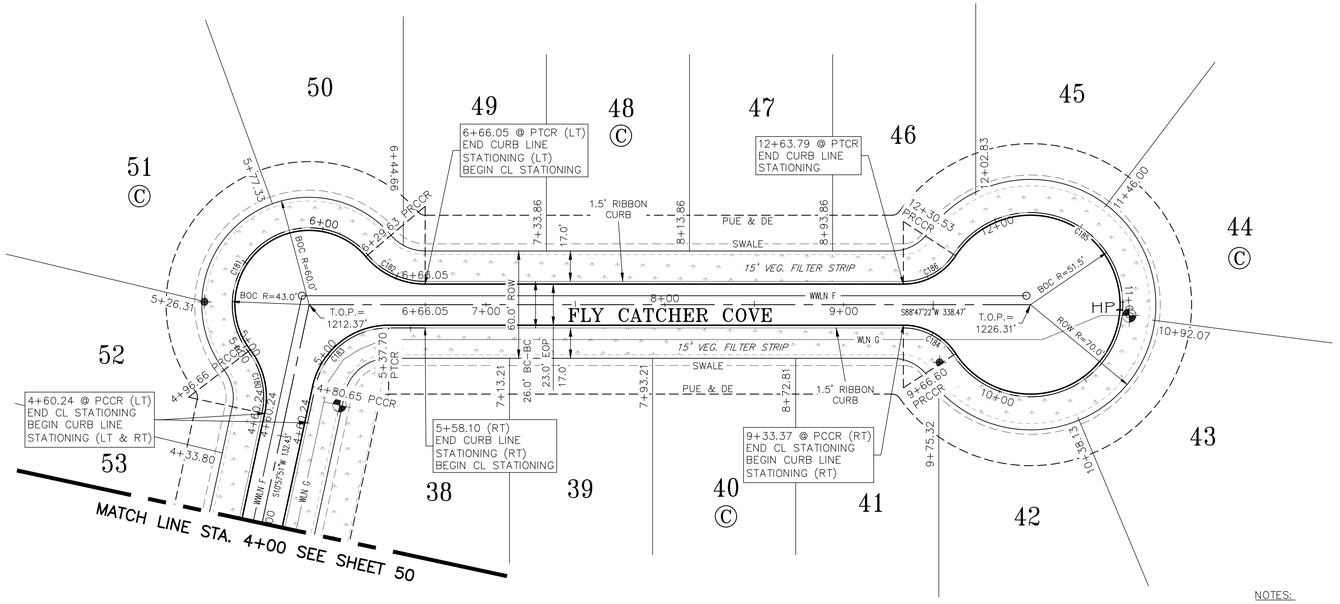
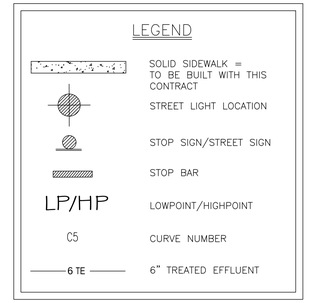
SUB-STREET.CTB





SCALE: 1" = 40'

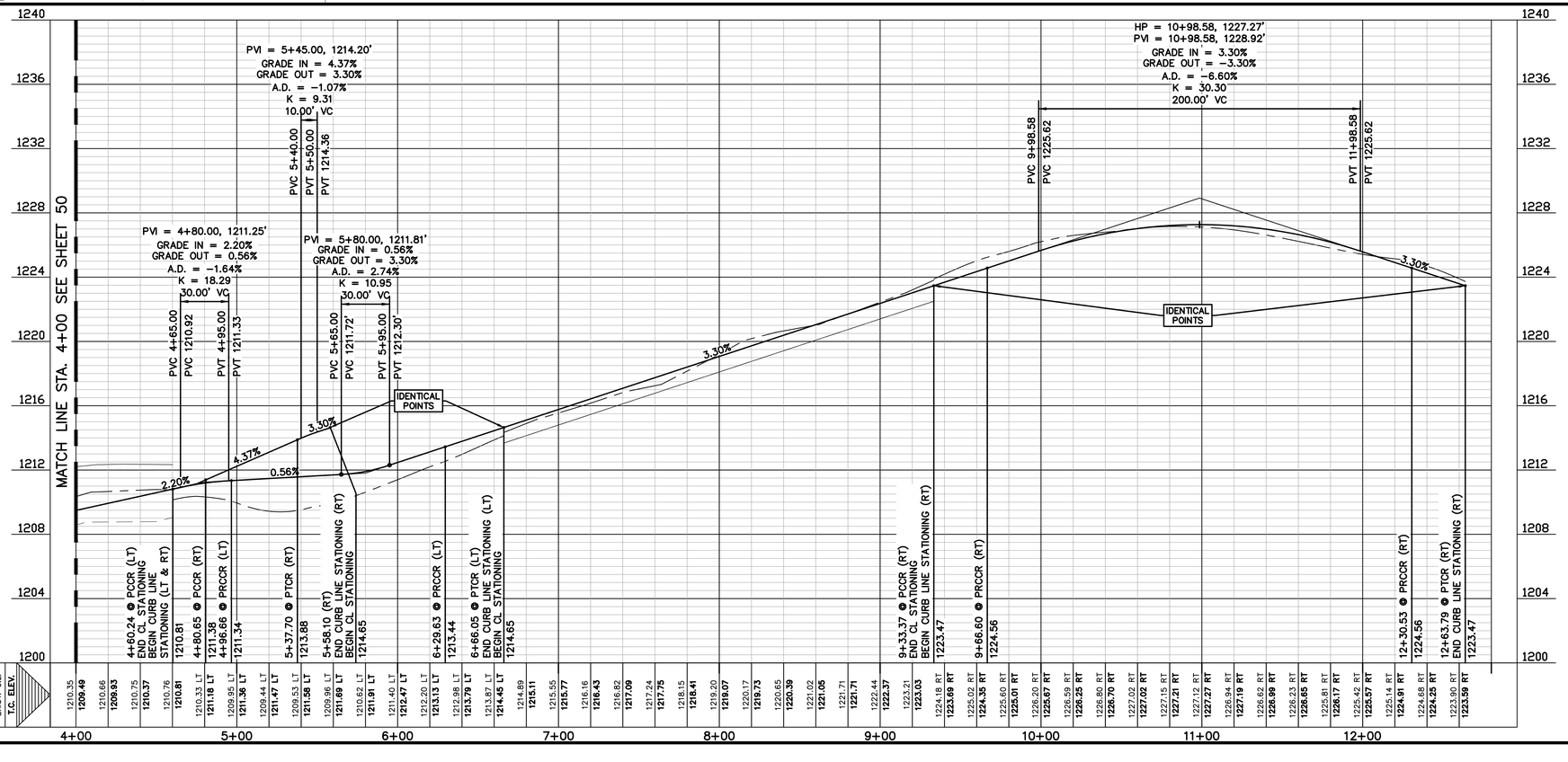
NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C180	42.00'	19.44'	049°40'47"	35.29'	36.42'
C181	43.00'	1749.91'	177°11'05"	85.97'	132.98'
C182	42.00'	19.44'	049°40'47"	35.29'	36.42'
C183	42.00'	33.90'	077°49'31"	52.76'	57.05'
C184	28.00'	15.31'	057°21'08"	26.87'	28.03'
C185	48.00'	30.75'	294°42'16"	51.79'	246.89'
C186	28.00'	15.31'	057°21'08"	26.87'	28.03'

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ————
NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ ——— — ———
PROPOSED T/C LT. & RT. ————



DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE	REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #1379
Main Office
5501 West William Cannon Dr. Austin, Texas 78749
Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdengr.com

SHEET NAME: FLY CATCHER COVE (4+00-END)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

6/13/2023

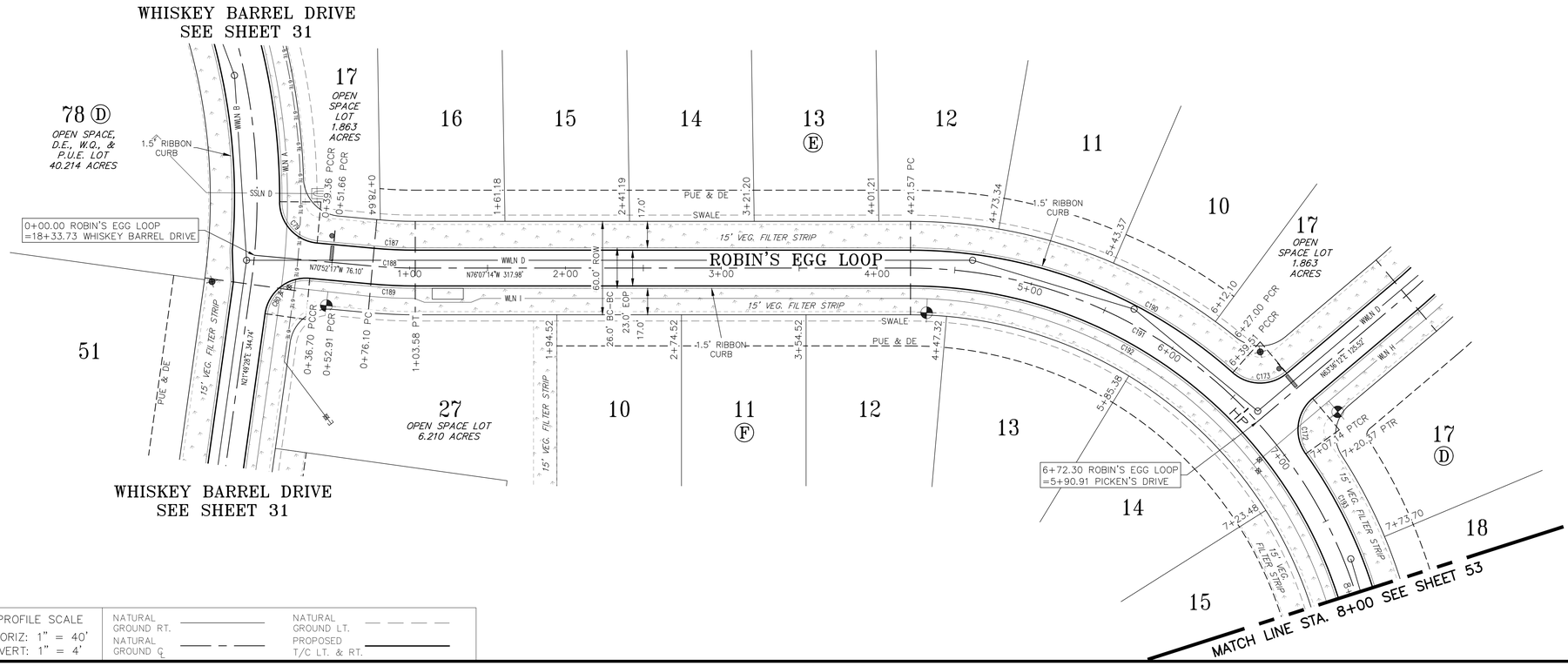
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

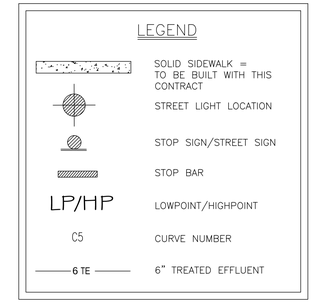
DATE: June 2023

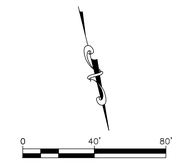
JOB NUMBER: 5079

SHEET: 51 OF 162

FILE PATH: J:\ACAD\5079\dwg\Construction Plans\5079-STREET P&P 2.dwg - Jun 14, 2023 - 9:28am







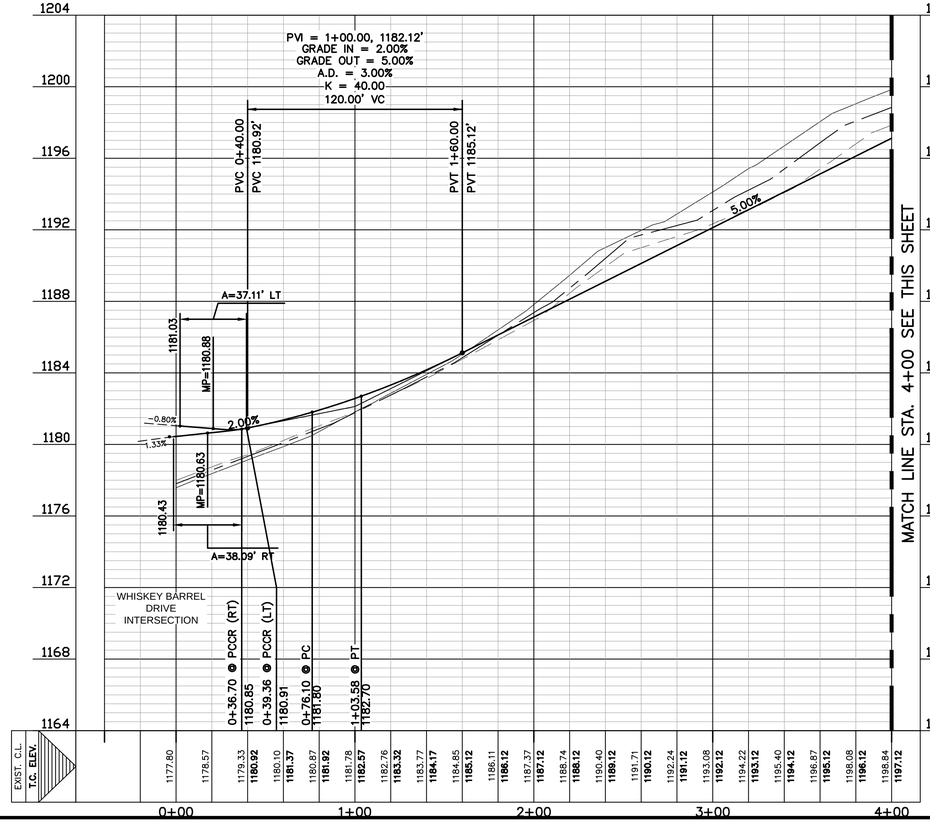
SCALE: 1" = 40'

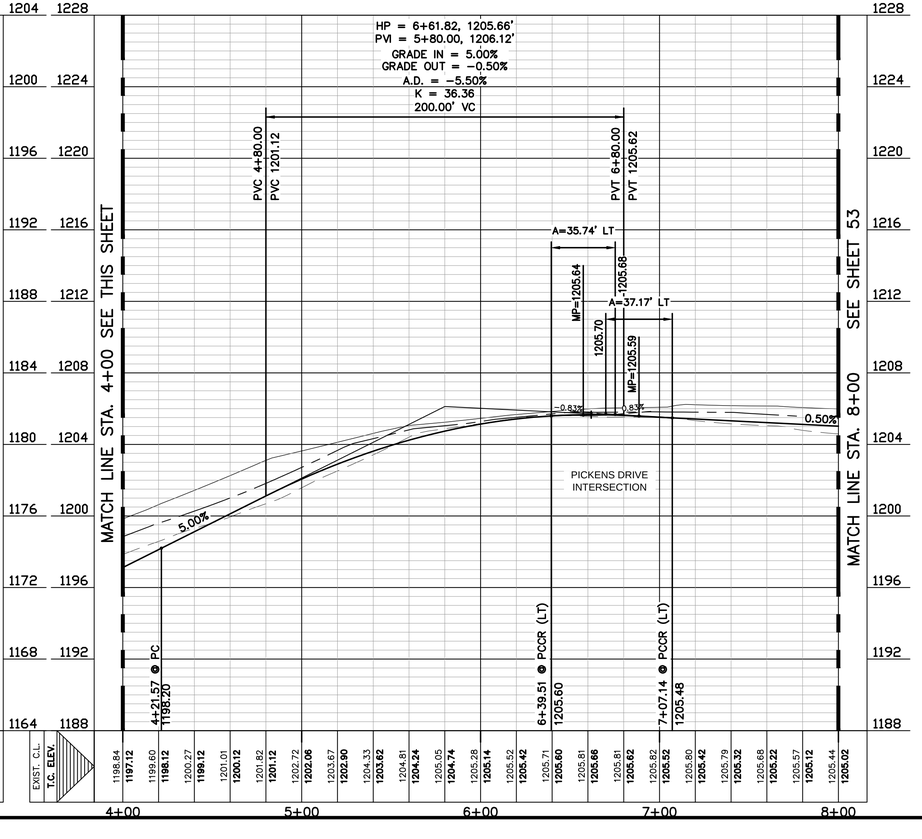
PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ — — — — PROPOSED T/C LT. & RT. ————

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.





CURVE TABLE

Curve #	Radius	Tangent	Delta	Chord	Arc Length
C79	25.00'	22.93'	085°03'25"	33.80'	37.11'
C80	25.00'	23.85'	087°18'15"	34.51'	38.09'
C172	25.00'	22.98'	085°11'01"	33.84'	37.17'
C173	25.00'	21.69'	081°54'03"	32.77'	35.74'
C187	287.00'	13.16'	005°14'57"	26.28'	26.29'
C188	300.00'	13.75'	005°14'57"	27.47'	27.48'
C189	313.00'	14.35'	005°14'57"	28.66'	28.67'
C190	313.00'	118.97'	041°37'28"	222.42'	227.39'
C191	300.00'	384.62'	104°05'31"	473.10'	545.02'
C192	287.00'	367.95'	104°05'31"	452.60'	521.41'
C193	313.00'	144.47'	049°33'07"	262.34'	270.70'

DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #1379
Main Office
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Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdengr.com

SHEET NAME: ROBINS EGG LOOP (0+00-8+00)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

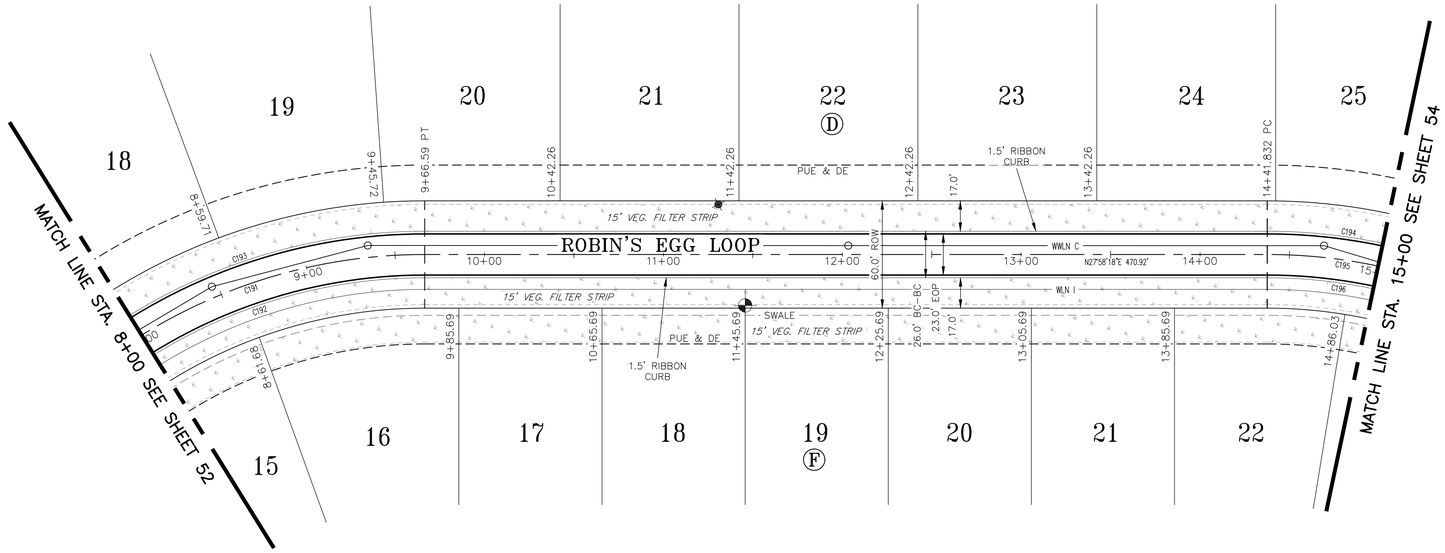
QUYNN DUSEK 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

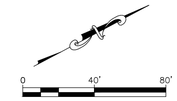
DATE: June 2023
JOB NUMBER: 5079
SHEET: 52 OF 162

SUB:STREET.CTB

FILE PATH: J:\ACAD\5079\dwg\Construction Plans\5079-STREET P&P 2.dwg - Jun 14, 2023 - 9:26am

SUB-STREET.CTB





SCALE: 1" = 40'

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

NOTES:

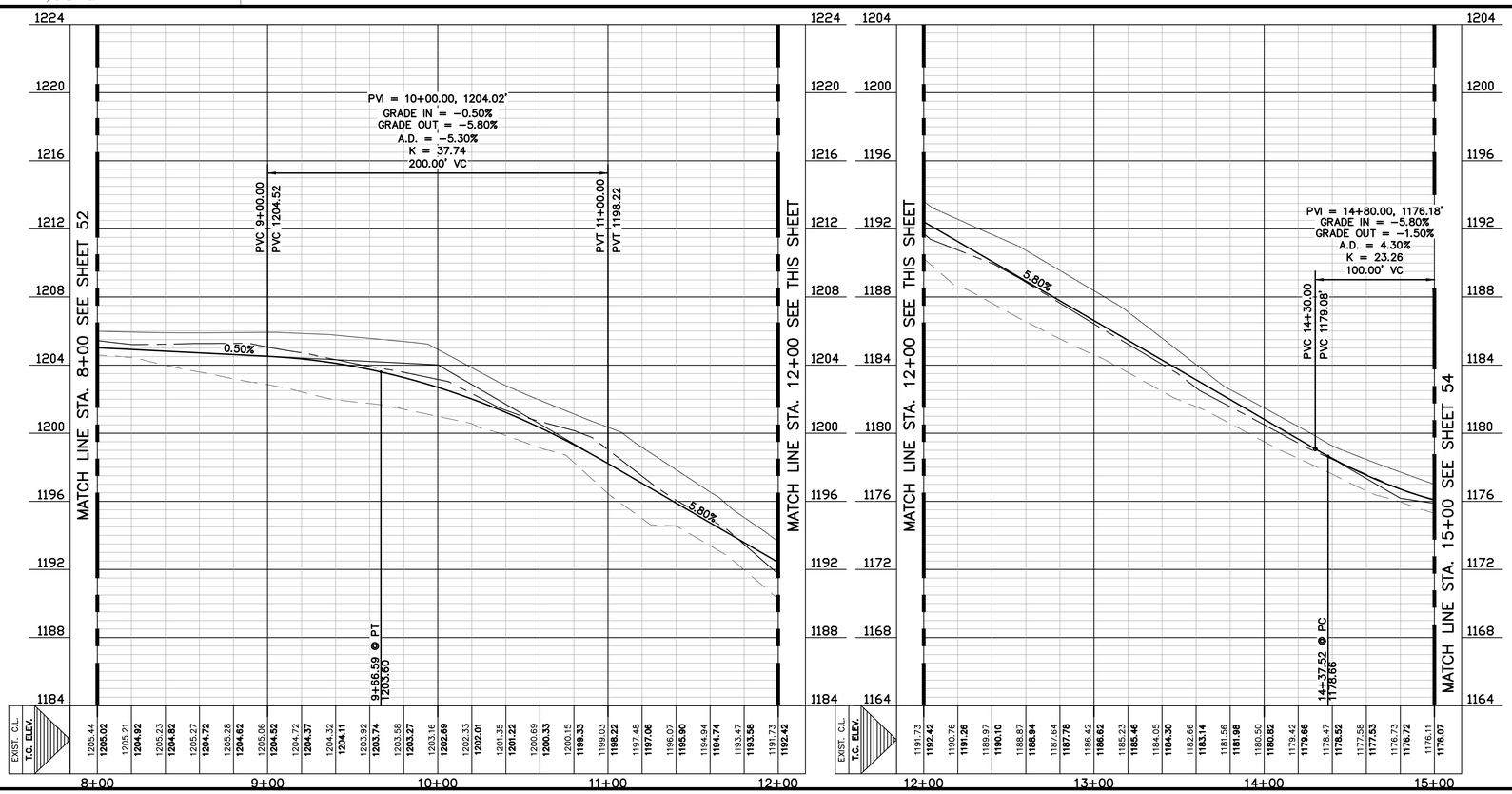
1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

CURVE TABLE

Curve #	Radius	Tangent	Delta	Chord	Arc Length
C191	300.00'	384.62'	104°05'31"	473.10'	545.02'
C192	287.00'	367.95'	104°05'31"	452.60'	521.41'
C193	313.00'	144.47'	049°33'07"	262.34'	270.70'
C194	313.00'	226.13'	071°41'33"	366.59'	391.65'
C195	300.00'	216.73'	071°41'33"	351.37'	375.38'
C196	287.00'	207.34'	071°41'33"	336.14'	359.11'

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ ——— — ——— PROPOSED T/C LT. & RT. ————



DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
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Phone No. (512) 280-5160
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Austin, Texas 78750
www.cbdeng.com

SHEET NAME: ROBINS EGG LOOP (8+00-15+00)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

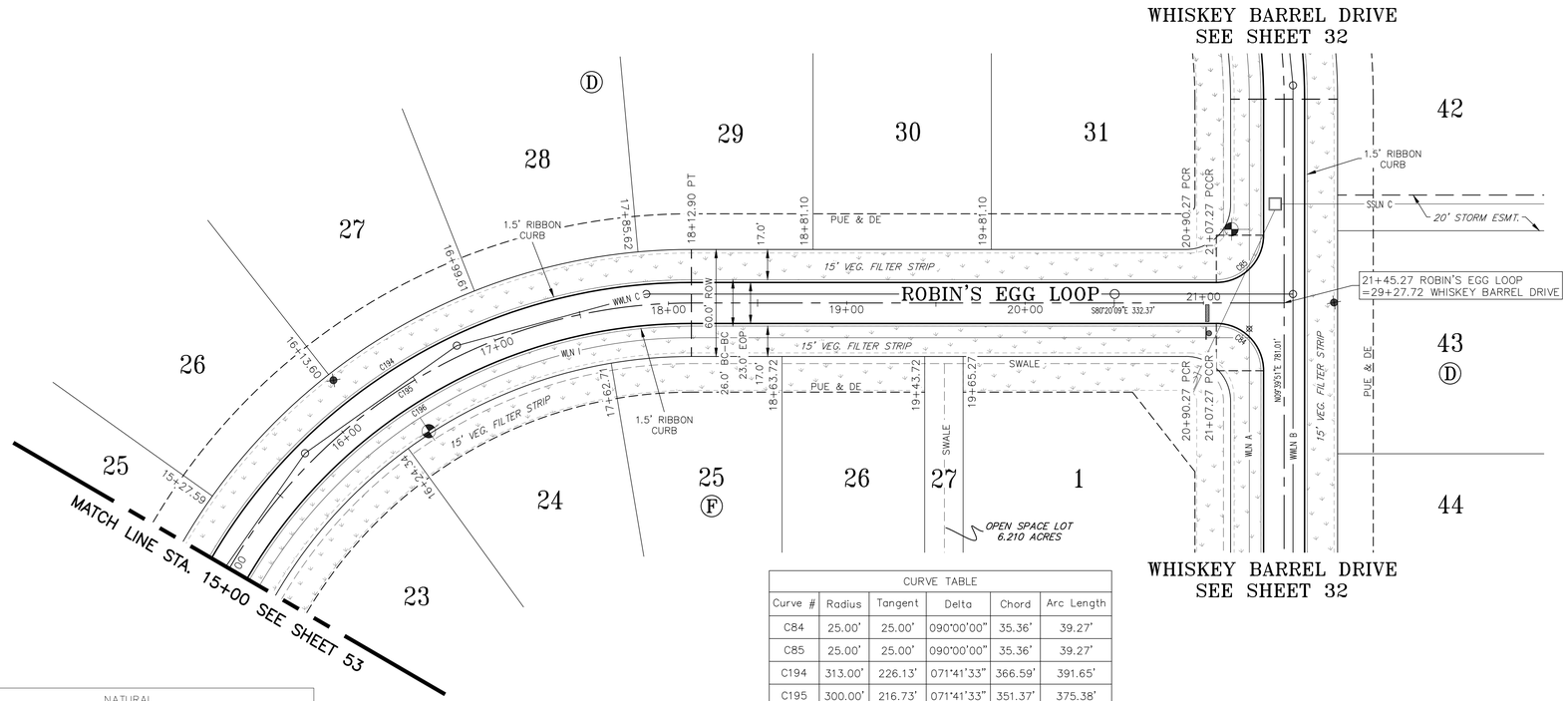
DATE: June 2023

JOB NUMBER: 5079

SHEET: 53 OF 162

FILE PATH: J:\AC2015\079\dwg\Construction Plans\5079-STREET P&P 2.dwg - Jun 14, 2023 - 9:26am

SUB.STREET.CTB



CURVE TABLE					
Curve #	Radius	Tangent	Delta	Chord	Arc Length
C84	25.00'	25.00'	090°00'00"	35.36'	39.27'
C85	25.00'	25.00'	090°00'00"	35.36'	39.27'
C194	313.00'	226.13'	071°41'33"	366.59'	391.65'
C195	300.00'	216.73'	071°41'33"	351.37'	375.38'
C196	287.00'	207.34'	071°41'33"	336.14'	359.11'

LEGEND

- SOLID SIDEWALK = TO BE BUILT WITH THIS CONTRACT
- STREET LIGHT LOCATION
- STOP SIGN/STREET SIGN
- STOP BAR
- LP/HP — LOWPOINT/HIGHPOINT
- C5 — CURVE NUMBER
- 6 TE — 6" TREATED EFFLUENT

0 40' 80'

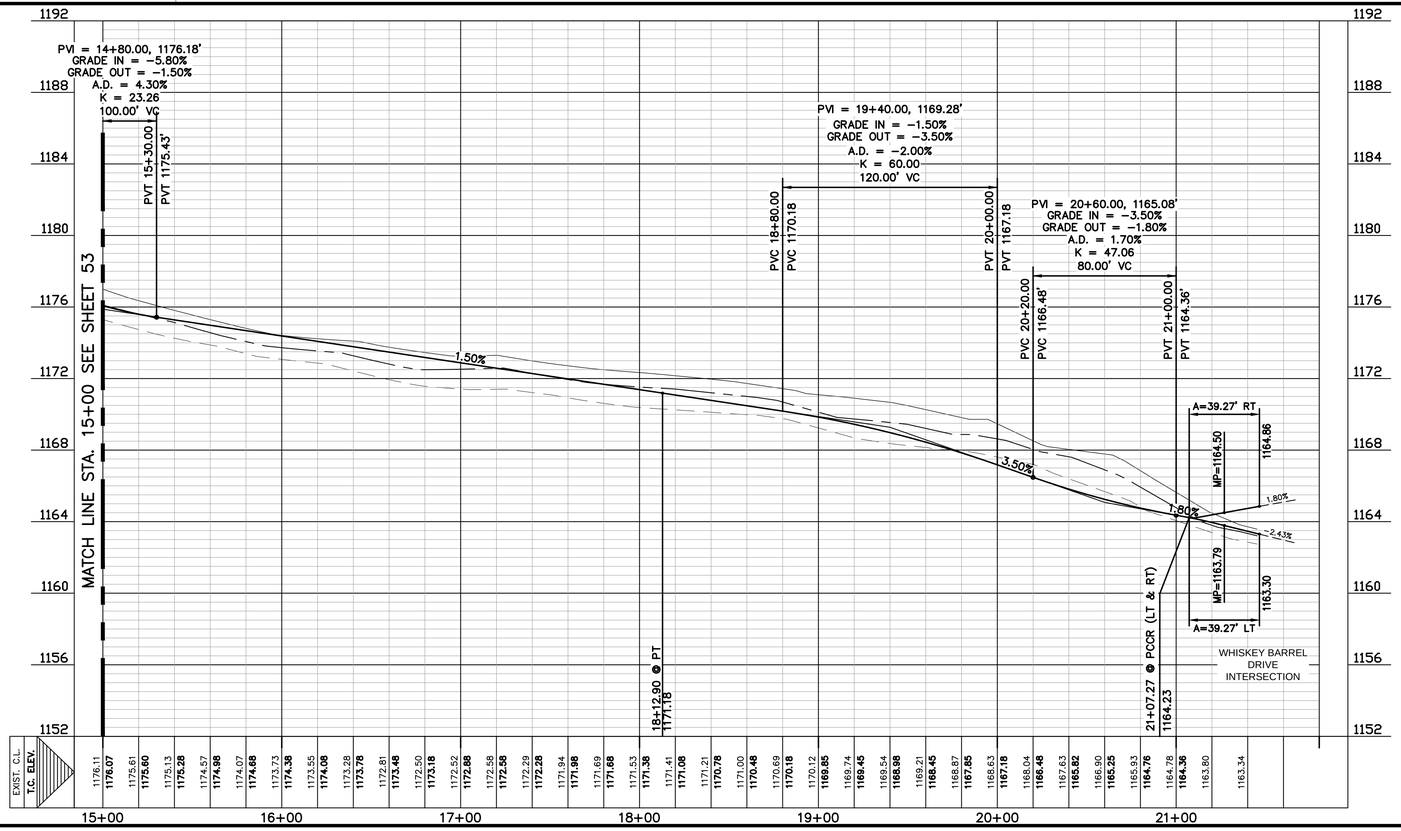
SCALE: 1" = 40'

NOTES:

1. ALL PLAN VIEW DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. PROPOSED PROFILE ELEVATIONS ARE AT THE TOP BACK OF THE RIBBON CURB.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

NATURAL GROUND RT. ———— NATURAL GROUND LT. — — — —
NATURAL GROUND ℄ —— — —— PROPOSED T/C LT. & RT. ————



DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #1379

North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
Phone No.: (512) 280-5160

Main Office
5501 West William Cannon Dr.
Austin, Texas 78749
Phone No.: (512) 280-5160
www.cbdengr.com

SHEET NAME: ROBINS EGG LOOP (15+00-END)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 54 OF 162

FILE PATH: J:\JOC\5079\dwg\Construction Plans\5079-STREET P&P 2.dwg - Jun 14, 2023 - 9:27am

SUB-STORM.CTB

0 200' 400'

SCALE: 1" = 200'

DESIGNED BY: QD	DRAFTED BY: CJP

DATE

REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600 Austin, Texas 78750 www.cbdeng.com

SHEET NAME: OVERALL STORM SEWER PLAN

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE
June 2023

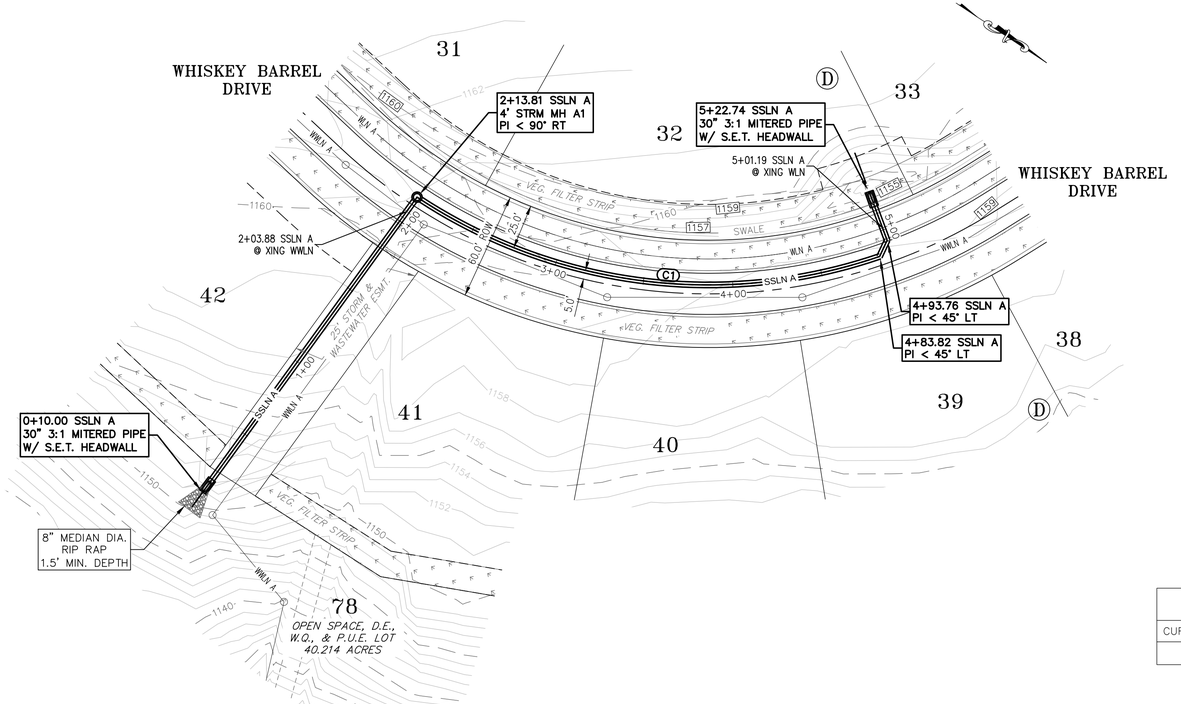
JOB NUMBER
5079

SHEET
55 OF 162

FILE PATH: J:\ACAD\5079\Dwg\Construction Plans\5079-STORM.dwg - Jun 14, 2023 - 11:54am

SUB-STORM.CTB

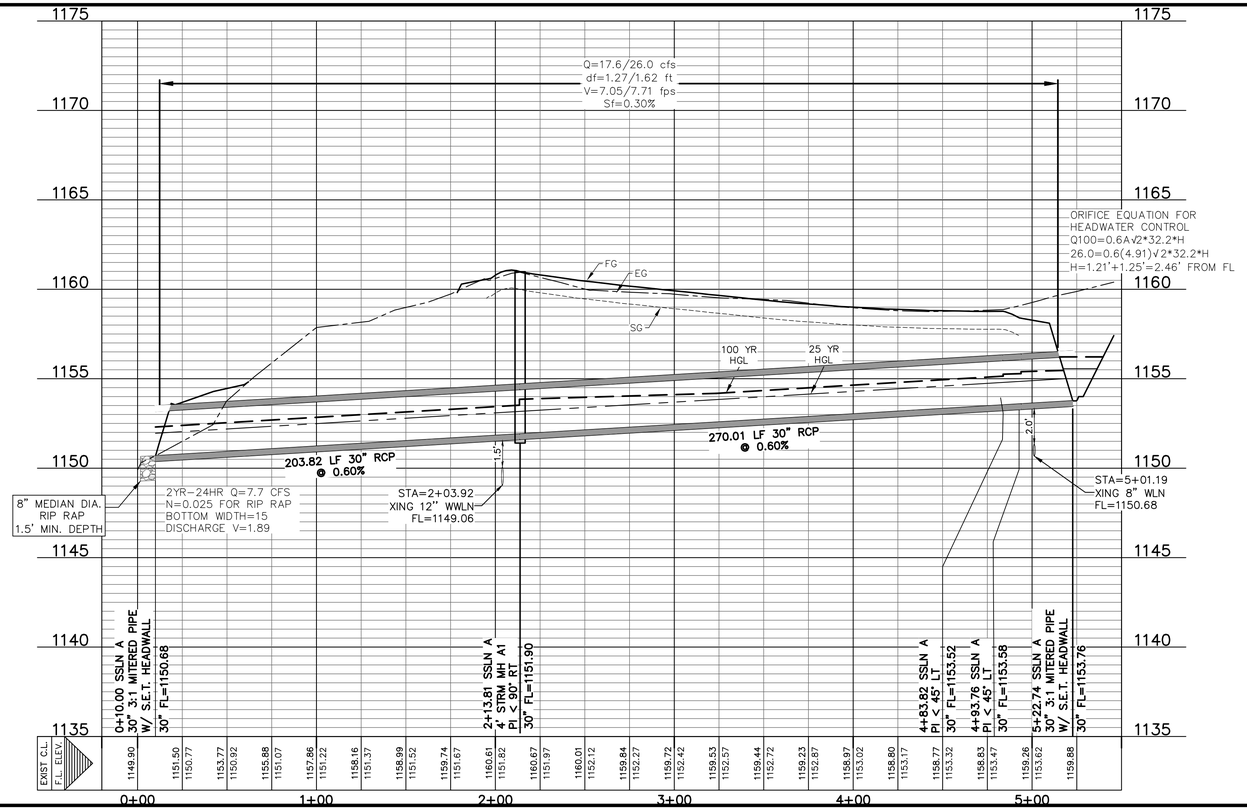
SCALE: 1" = 40'



CURVE TABLE						
CURVE NO.	RADIUS	LENGTH	CHORD	CHORD BEARING	TANGENT LENGTH	DELTA
C1	295.00	270.01	260.68	N26°09'02"W	145.29	52°26'31"

PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

STORM SEWER LINE "A"



DESIGNED BY: QD
DRAFTED BY: CJP

DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600 Austin, Texas 78750 www.cbdengr.com

SHEET NAME: STORM SEWER LINES A PLAN & PROFILE (0+00-END)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 56 OF 162

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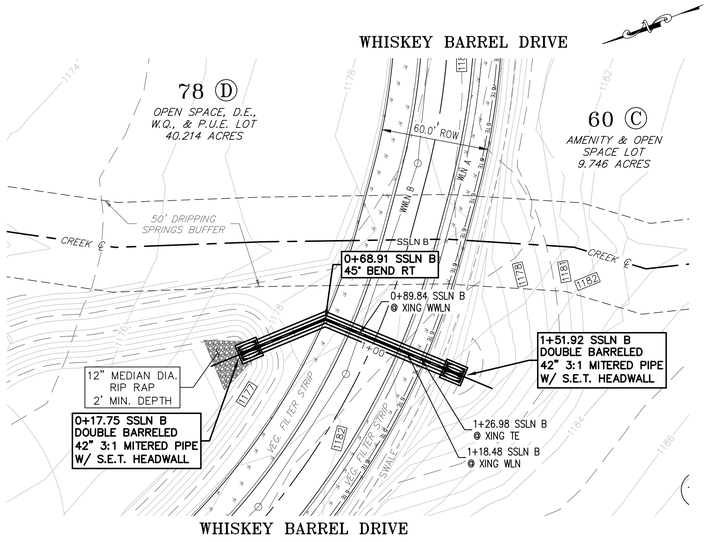
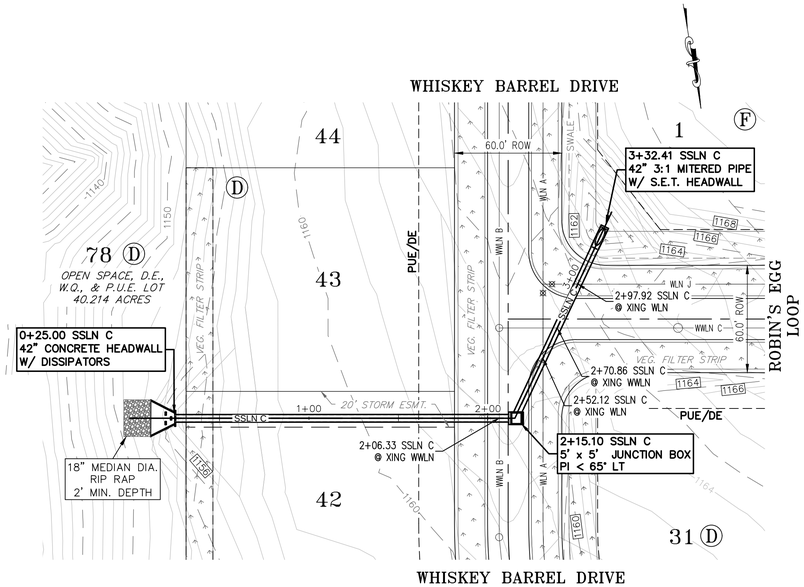
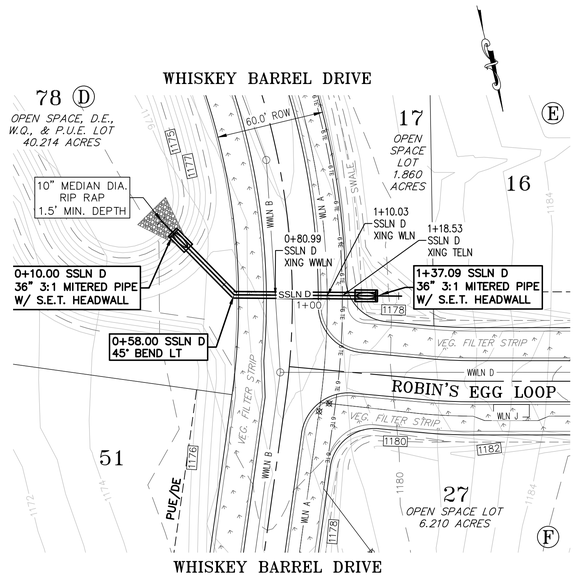
SUB-STORM.CTB



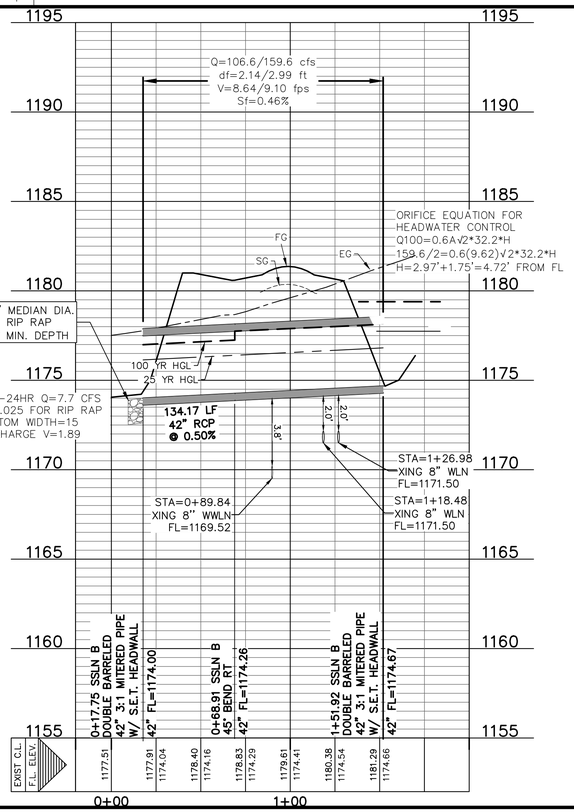




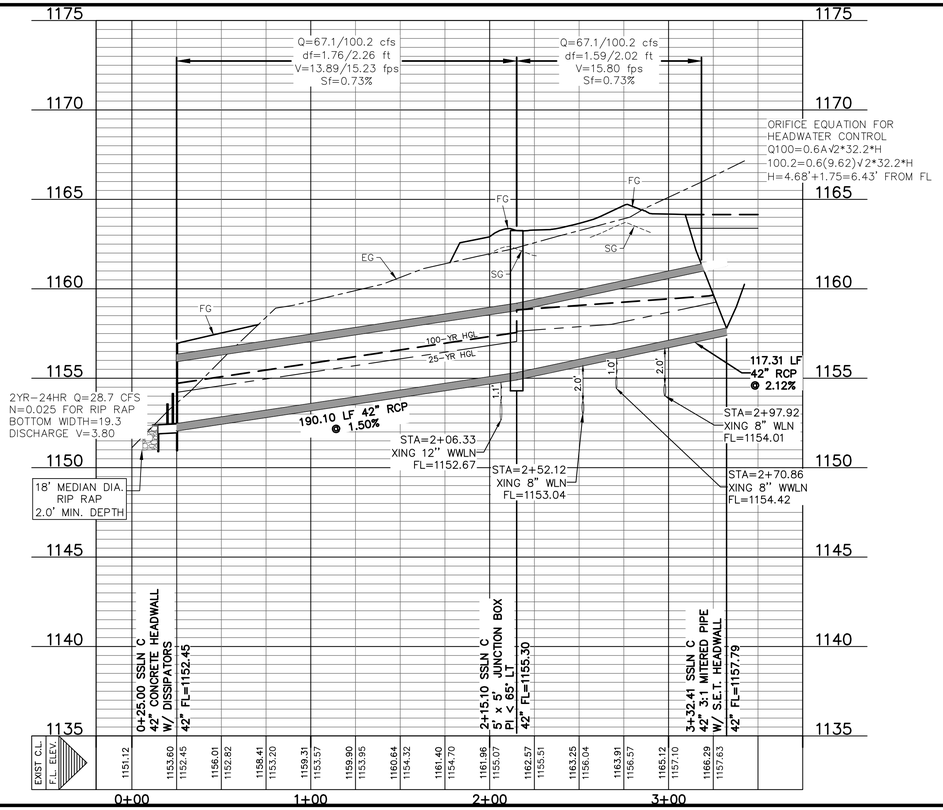
SCALE: 1" = 40'

PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

STORM SEWER LINE "B"



STORM SEWER LINE "C"



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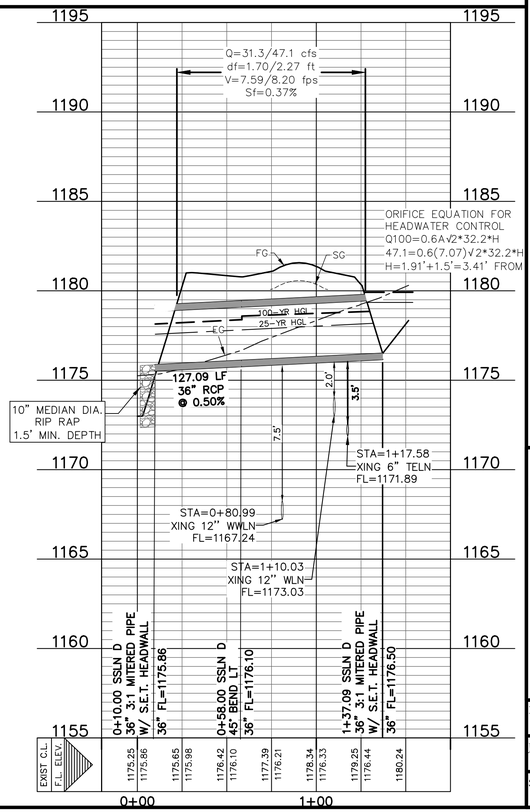

DESIGNED BY: QD
DRAFTED BY: CIP
DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600 Austin, Texas 78750 www.cbdengr.com

SHEET NAME: STORM SEWER LINES B, C & D PLAN & PROFILE (0+00-END)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 57 OF 162

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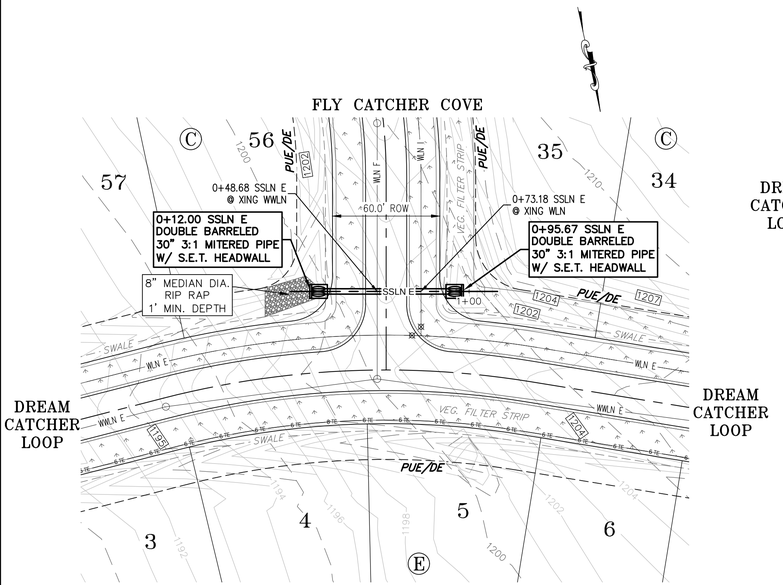
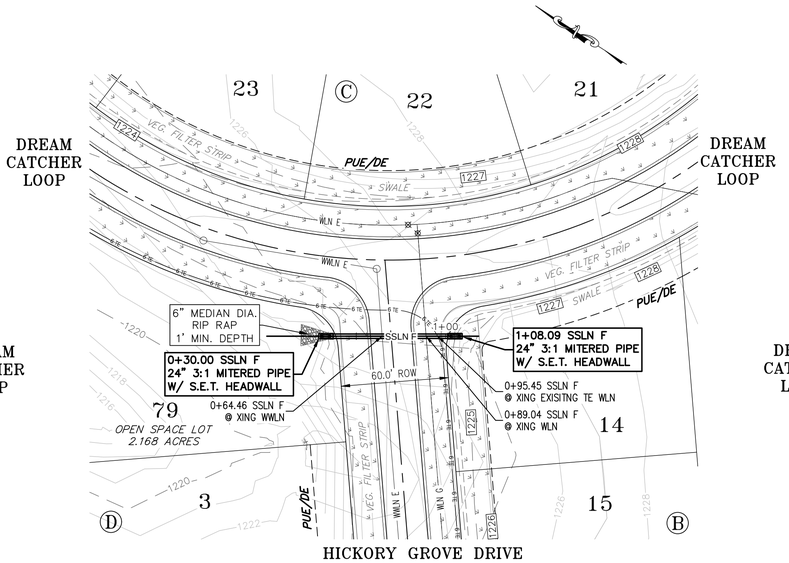
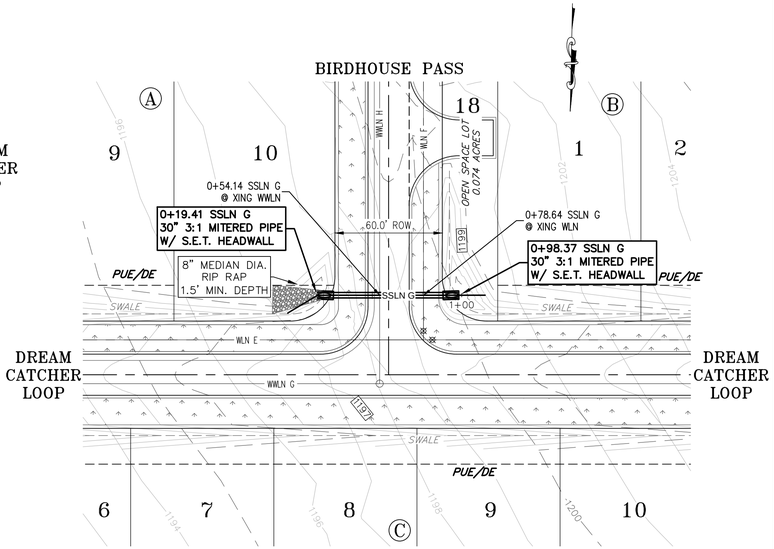
SUB-STORM.CTB

SCALE: 1" = 40'

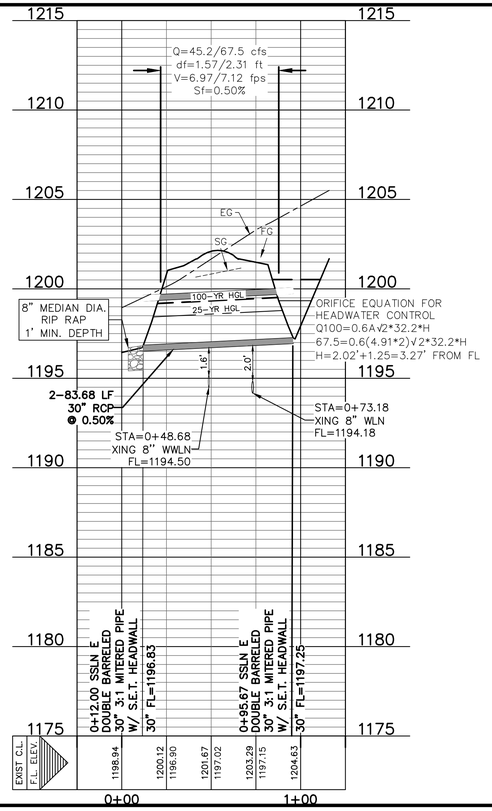






PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

STORM SEWER LINE "E"



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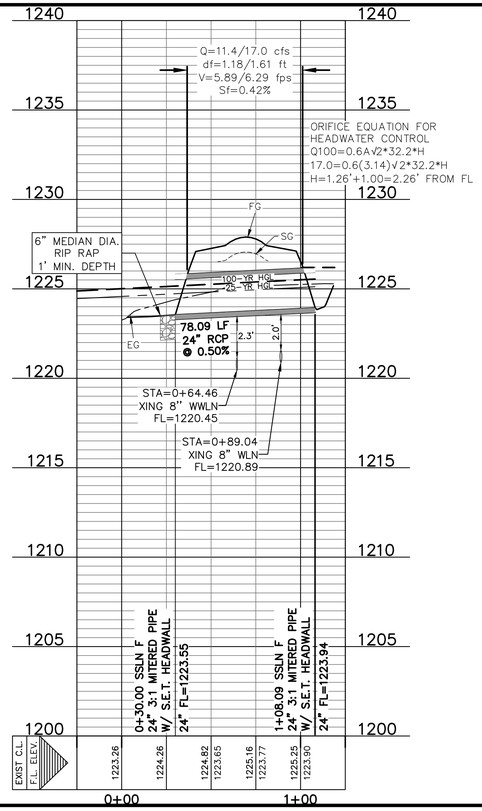
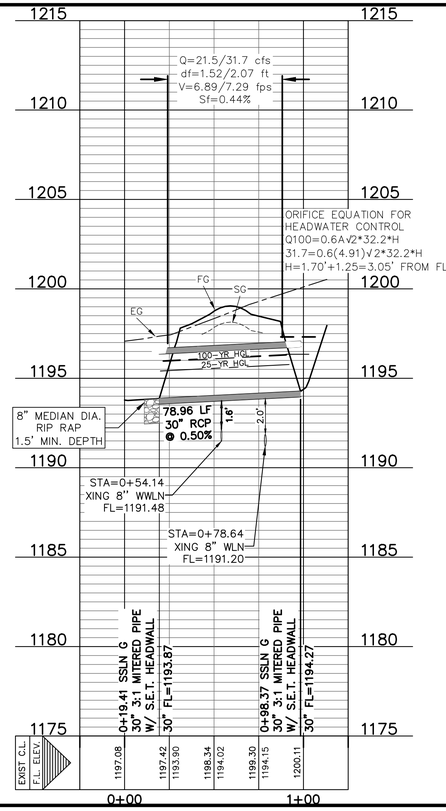


STORM SEWER LINE "G"



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DESIGNED BY: QD	DRAFTED BY: CIP
DATE	
REVISION	

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
North Office: 12129 RR (620 N.) Ste. 600 Austin, Texas 78750 www.cbdengr.com

SHEET NAME: STORM SEWER LINES E, F & G PLAN & PROFILE (0+00-END)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

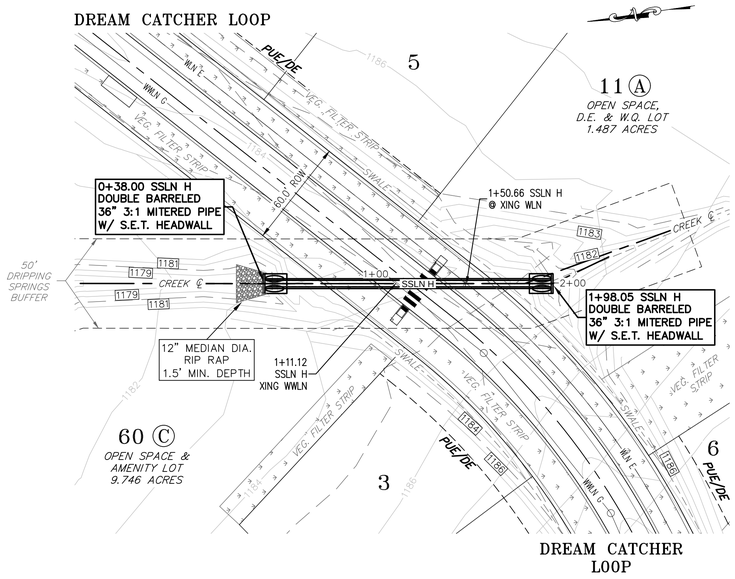
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

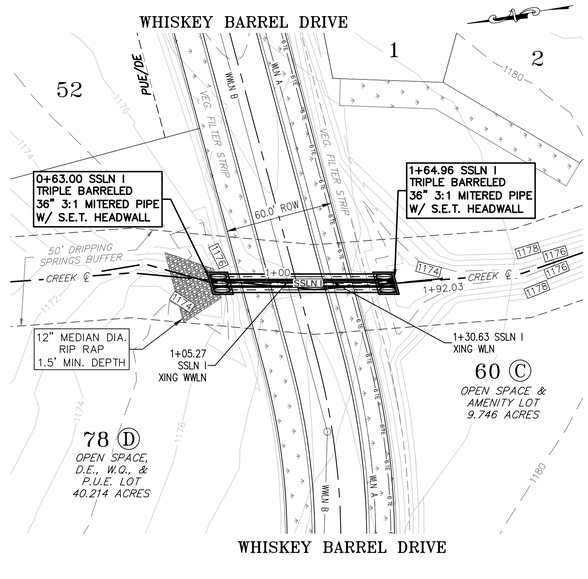
DATE: June 2023

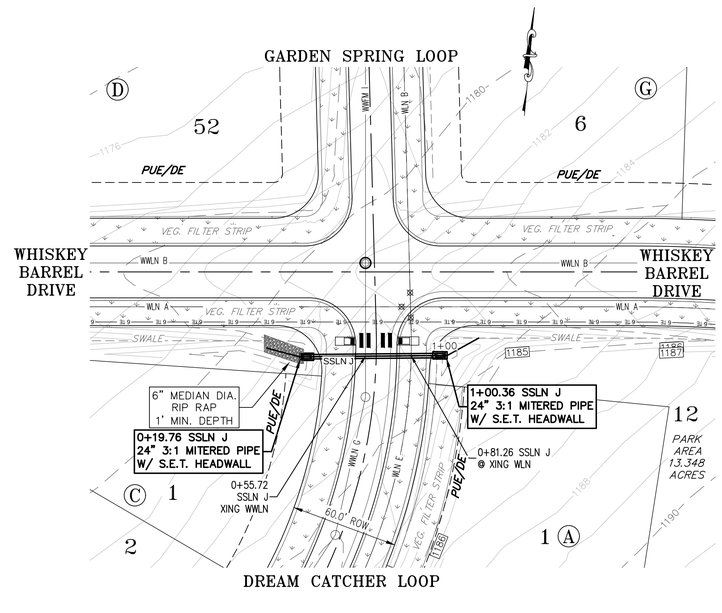
JOB NUMBER: 5079

SHEET: 58 OF 162

SUB-STORM.CTB

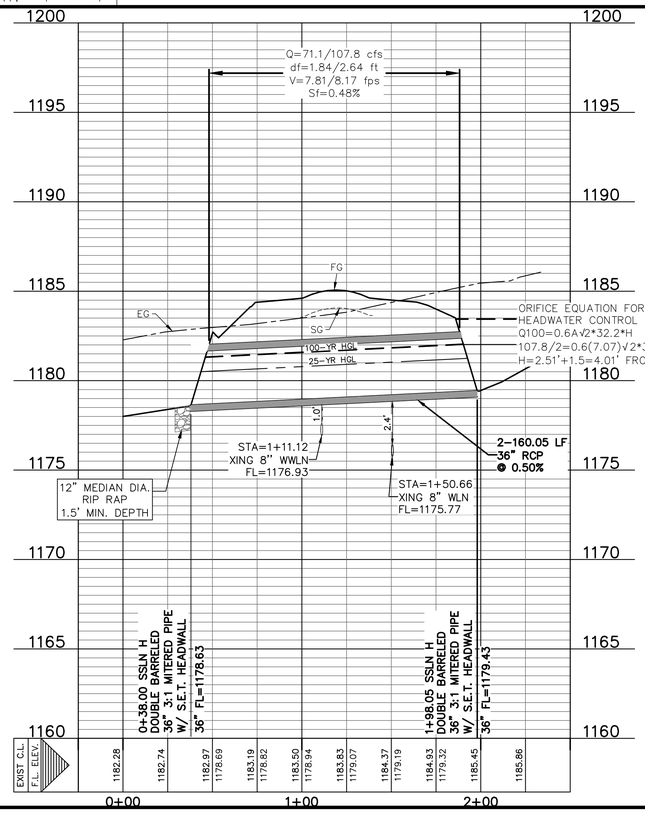






PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

STORM SEWER LINE "H"



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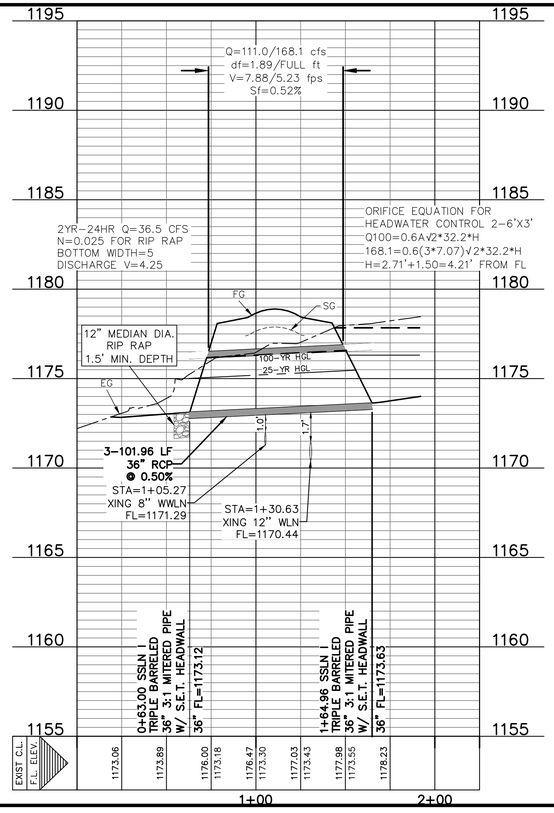
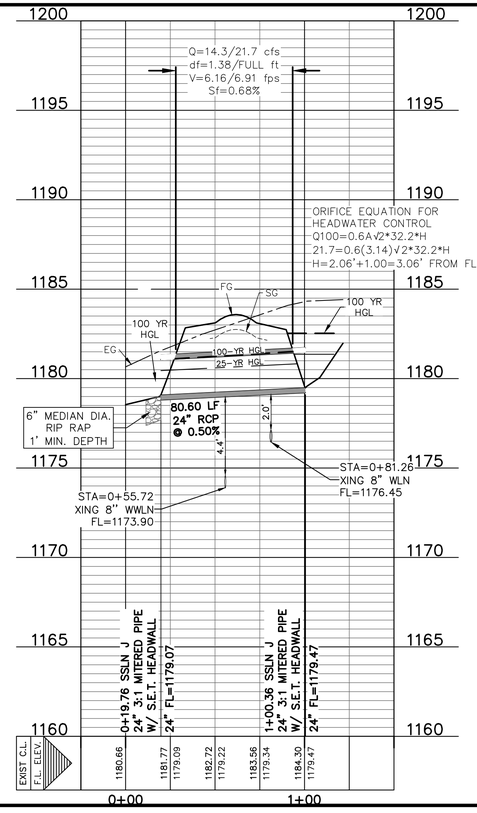


STORM SEWER LINE "J"



FILE PATH: I:\ACD\5079\Dwg\Construction Plans\5079-STORM.dwg - Jun 14, 2023 - 11:55am

DESIGNED BY: QD | DRAFTED BY: CIP

DATE

REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600 Austin, Texas 78750 www.cbdengr.com

SHEET NAME: STORM SEWER LINES H, I & J PLAN & PROFILE (0+00-END)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

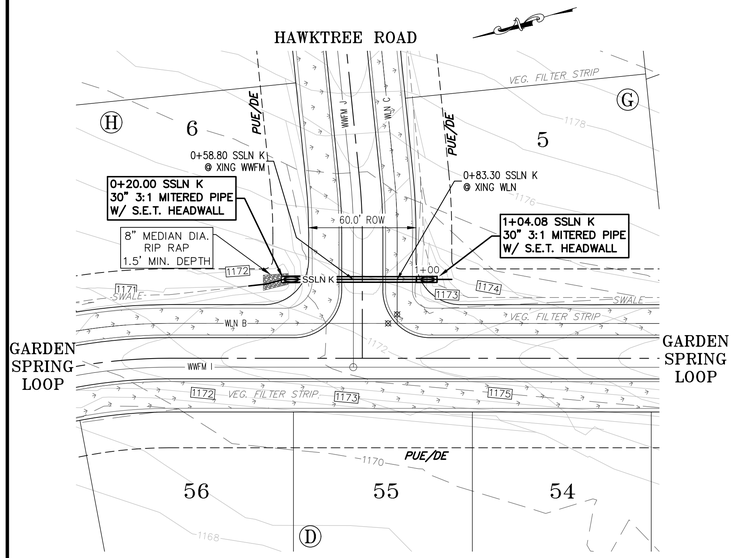
DATE: June 2023

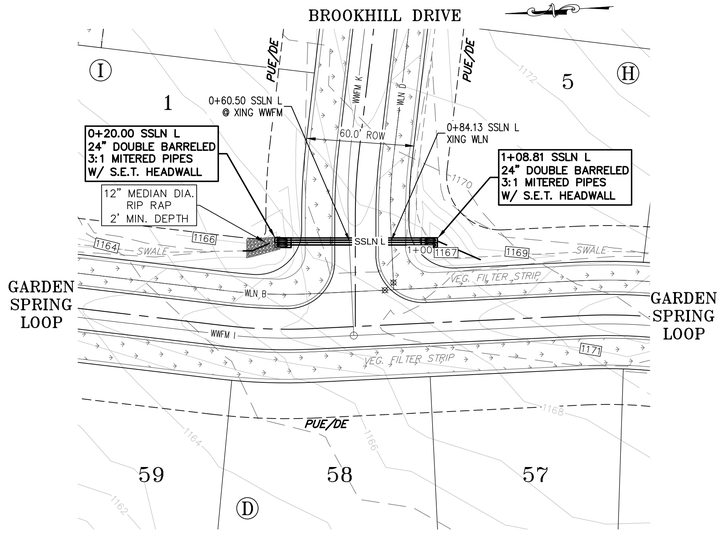
JOB NUMBER: 5079

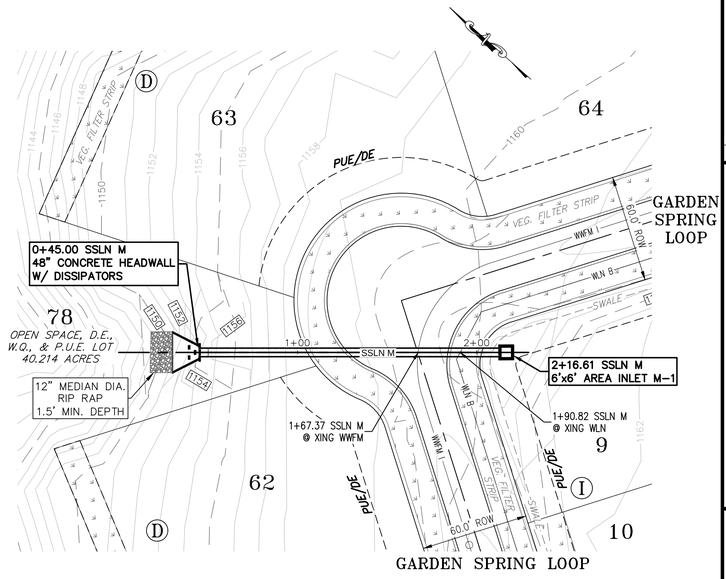
SHEET: 59 OF 162

SUB-STORM.CTB

SCALE: 1" = 40'

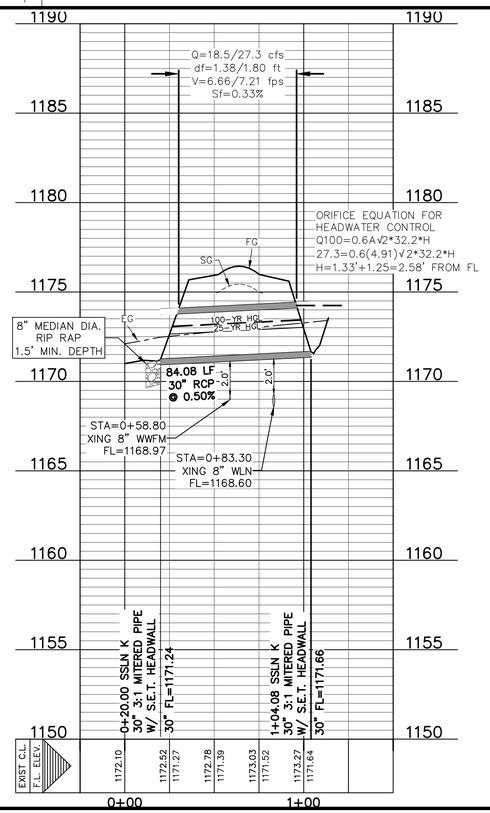






PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

STORM SEWER LINE "K"



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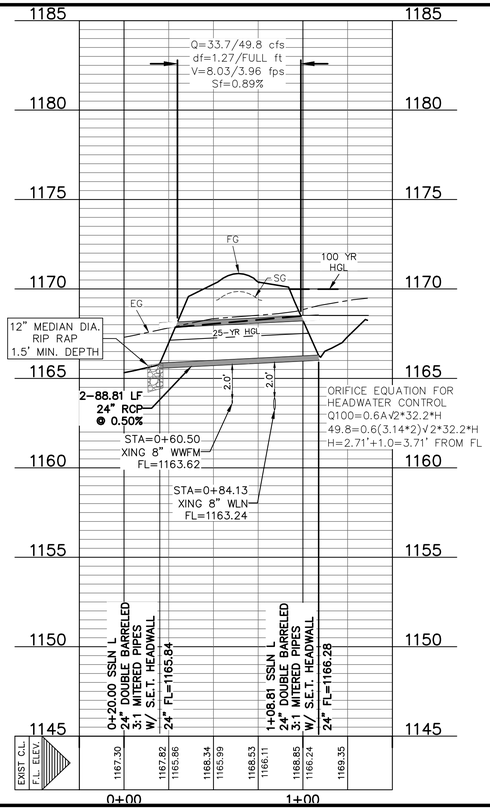
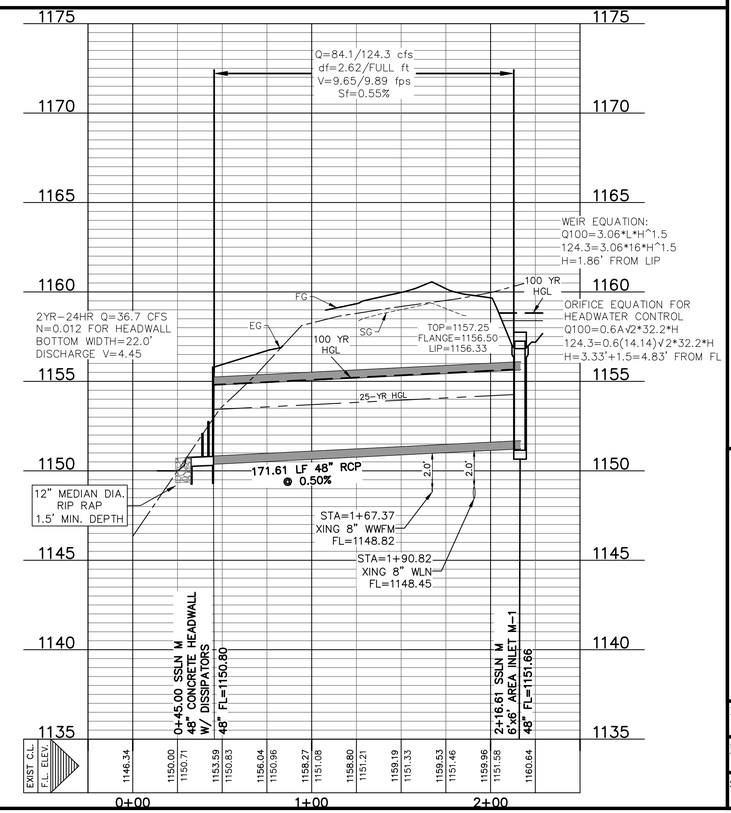


STORM SEWER LINE "M"



Carlson, Brigance & Doering, Inc.
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5501 West William Cannon Dr.
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DESIGNED BY: QD
DRAFTED BY: CIP
DATE
REVISION

SHEET NAME: STORM SEWER LINES K, L & M PLAN & PROFILE (0+00-END)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED
PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE June 2023
JOB NUMBER 5079
SHEET 60 OF 162

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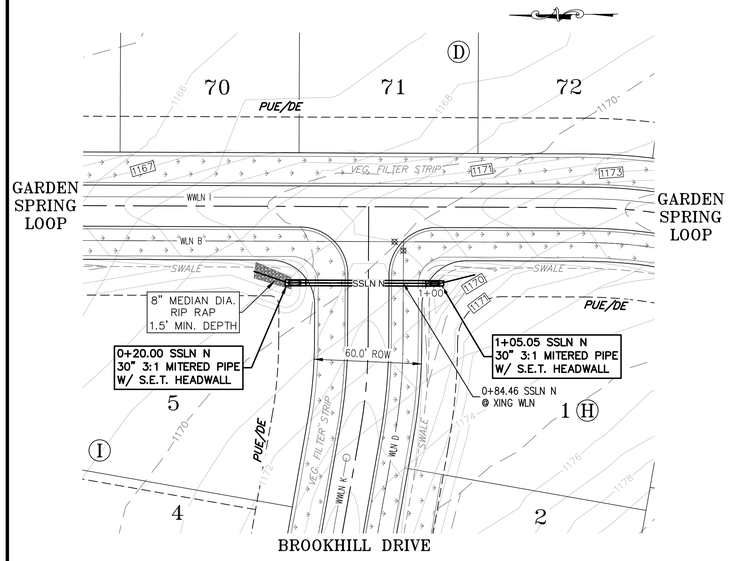
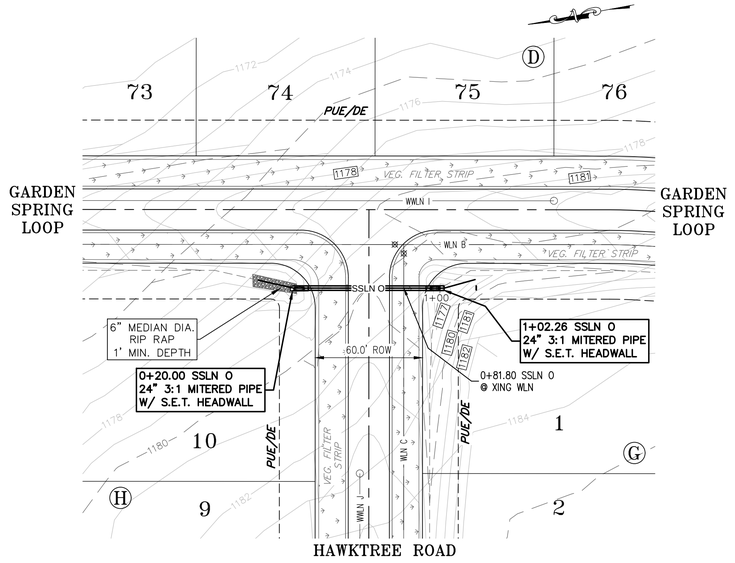
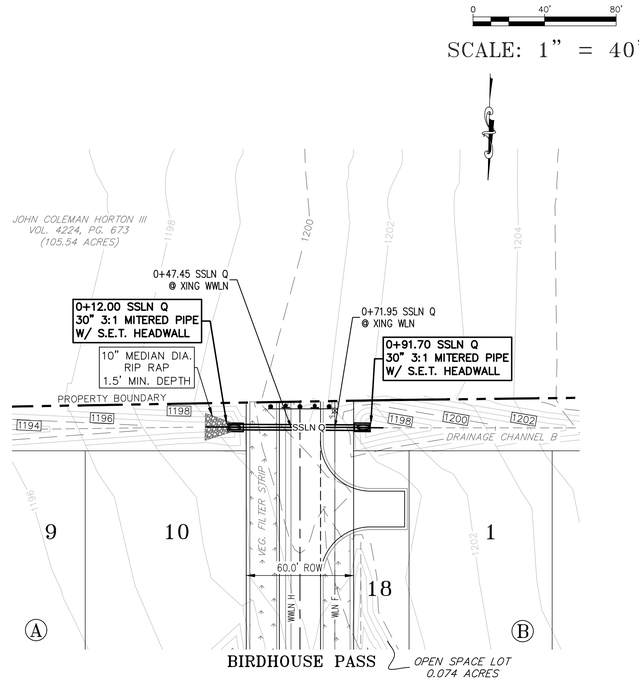
SUB-STORM.CTB

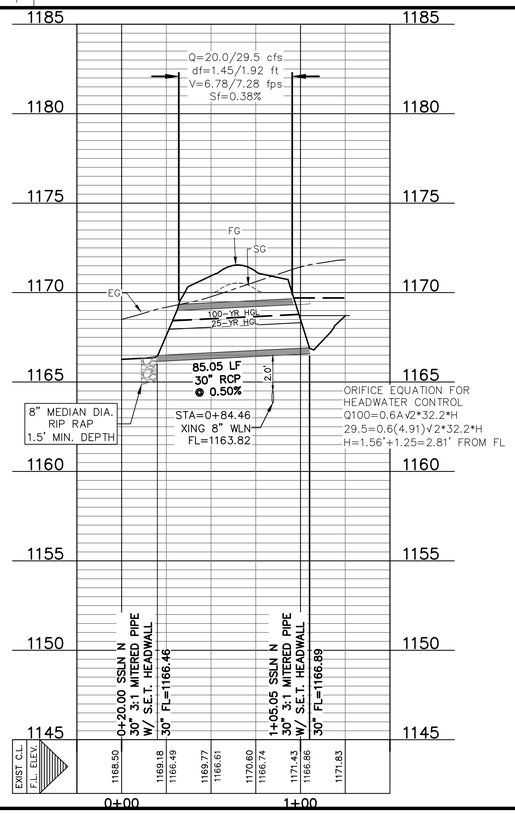




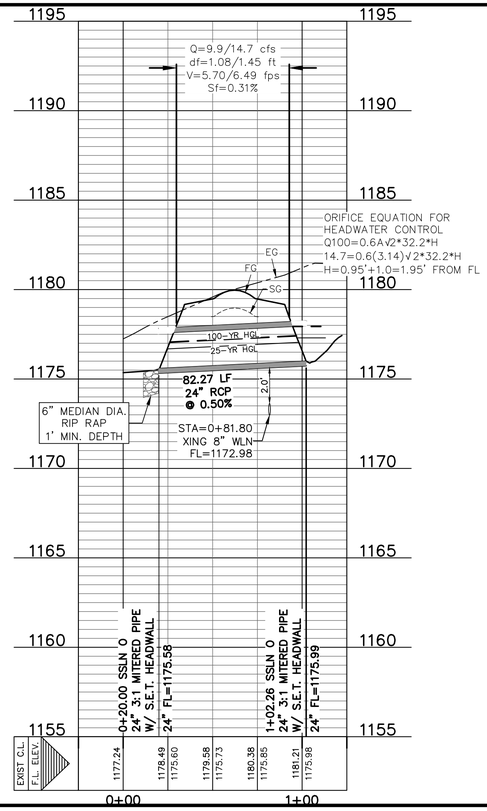


PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

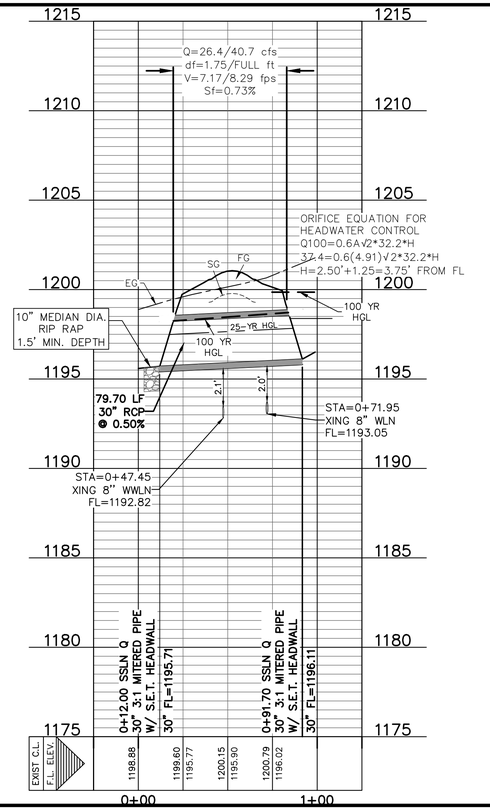
STORM SEWER LINE "N"



STORM SEWER LINE "O"



STORM SEWER LINE "Q"



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DESIGNED BY: QD	DRAFTED BY: CIP
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Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
North Office: 12129 RR (620 N.) Ste. 600 Austin, Texas 78750 www.cbdengr.com

SHEET NAME: STORM SEWER LINES N, O & Q PLAN & PROFILE (0+00-END)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

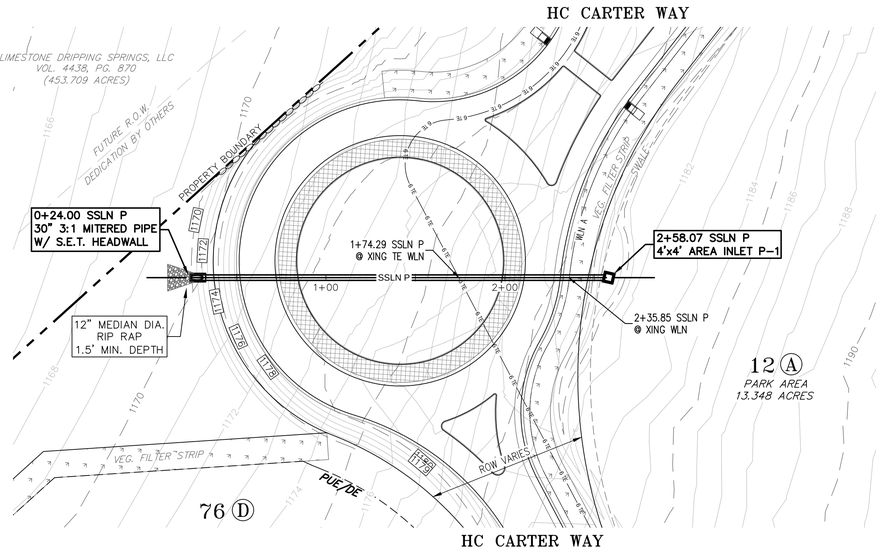
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

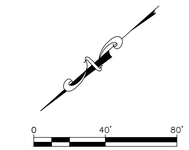
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 61 OF 162

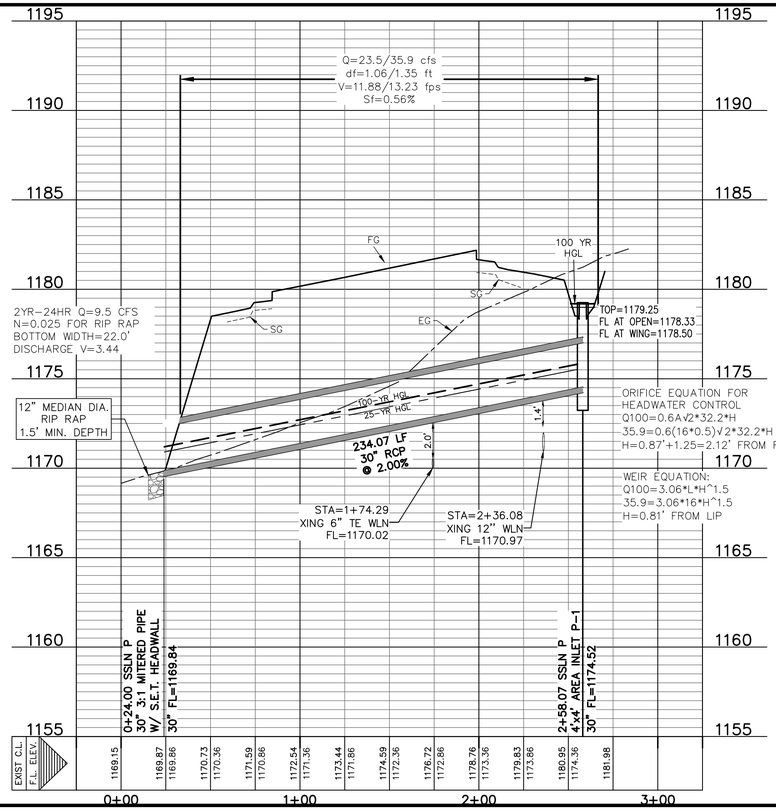




SCALE: 1" = 40'

STORM SEWER LINE "P"

PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'



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DATE | REVISION

Carlson, Brigance & Doering, Inc.
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North Office: 12129 RR 620 N., Ste. 600 Austin, Texas 78750 www.cbdeng.com

SHEET NAME: STORM SEWER LINE P PLAN & PROFILE (0+00-END)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED
PROFESSIONAL ENGINEER

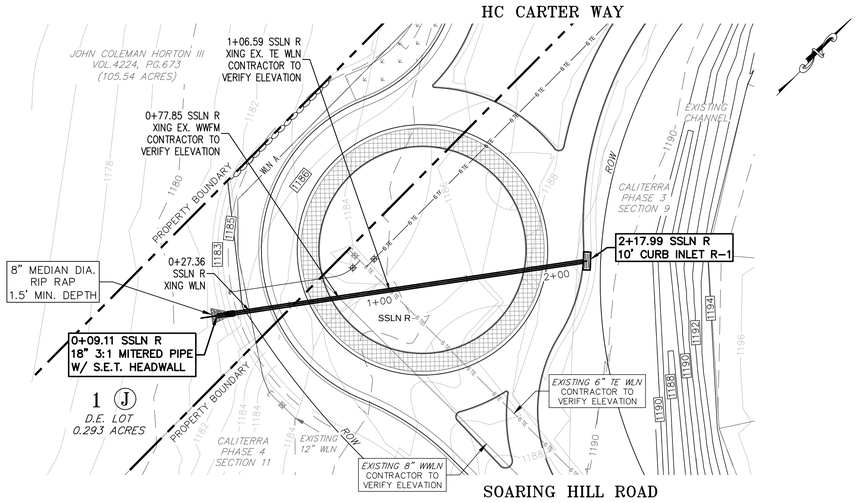
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

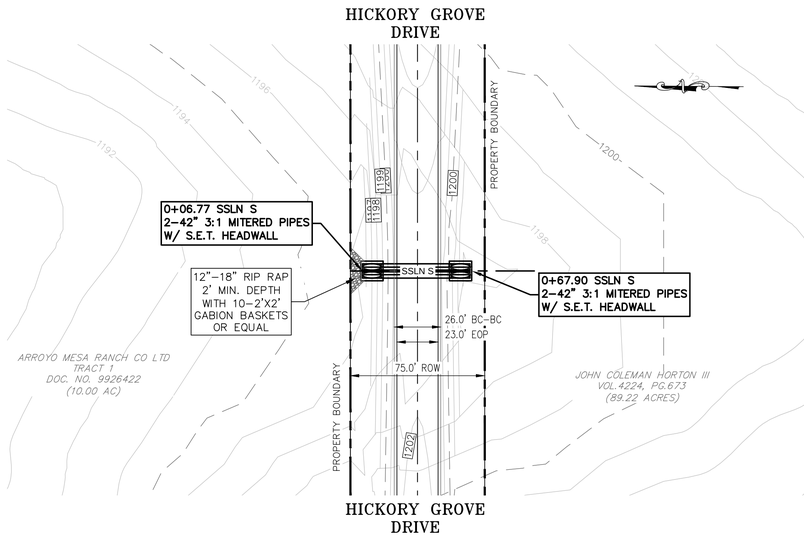
DATE: June 2023

JOB NUMBER: 5079

SHEET: 62 OF 162

SUB-STORM.CTB





SCALE: 1" = 40'

25 YEAR INLET CALCULATIONS

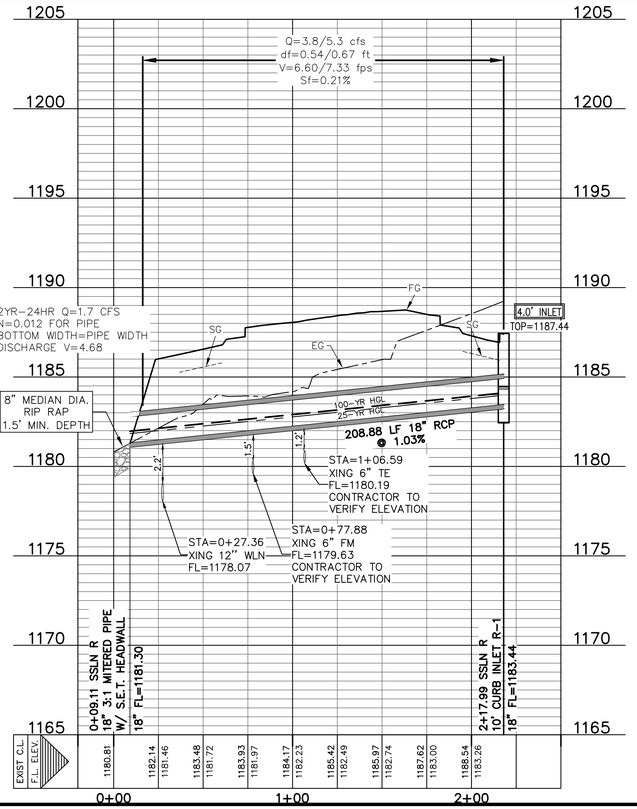
INLET NUMBER	DRAINAGE AREA NO.	Q (CFS)	Q PASS (CFS)	Q SPILL (CFS)	Q ADD (CFS)	Q TOTAL (QA) (CFS)	SLOPE (%)	a (IN)	Yo (FT)	PAVEMENT WIDTH	PONDED WIDTH	Qa/La	La (FT)	LENGTH (FT)	L/La	a/Yo	Q/Qa	REMARK
R-1	R1	3.8				3.8	LP	0.42	0.19	32.00	3.33	0.65	5.8	15	2.57	2.2	1.00	

100 YEAR INLET CALCULATIONS

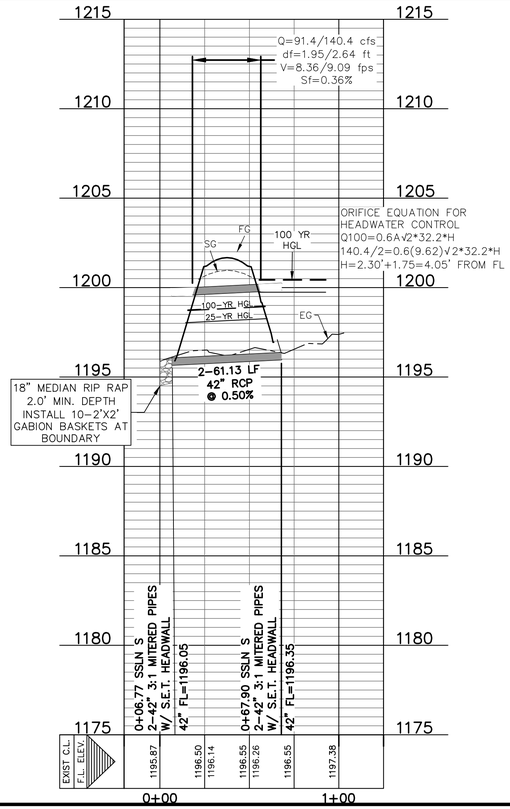
INLET NUMBER	DRAINAGE AREA NO.	Q (CFS)	Q PASS (CFS)	Q SPILL (CFS)	Q ADD (CFS)	Q TOTAL (QA) (CFS)	SLOPE (%)	a (FT)	Yo (FT)	PAVEMENT WIDTH	PONDED WIDTH	Qa/La	La (FT)	LENGTH (FT)	L/La	a/Yo	Q/Qa	REMARK
R-1	R1	5.3				5.3	LP	0.42	0.24	32.00	4.30	0.70	7.6	15	1.98	1.7	1.00	

PROFILE SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'

STORM SEWER LINE "R"



STORM SEWER LINE "S"



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DATE | REVISION

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Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
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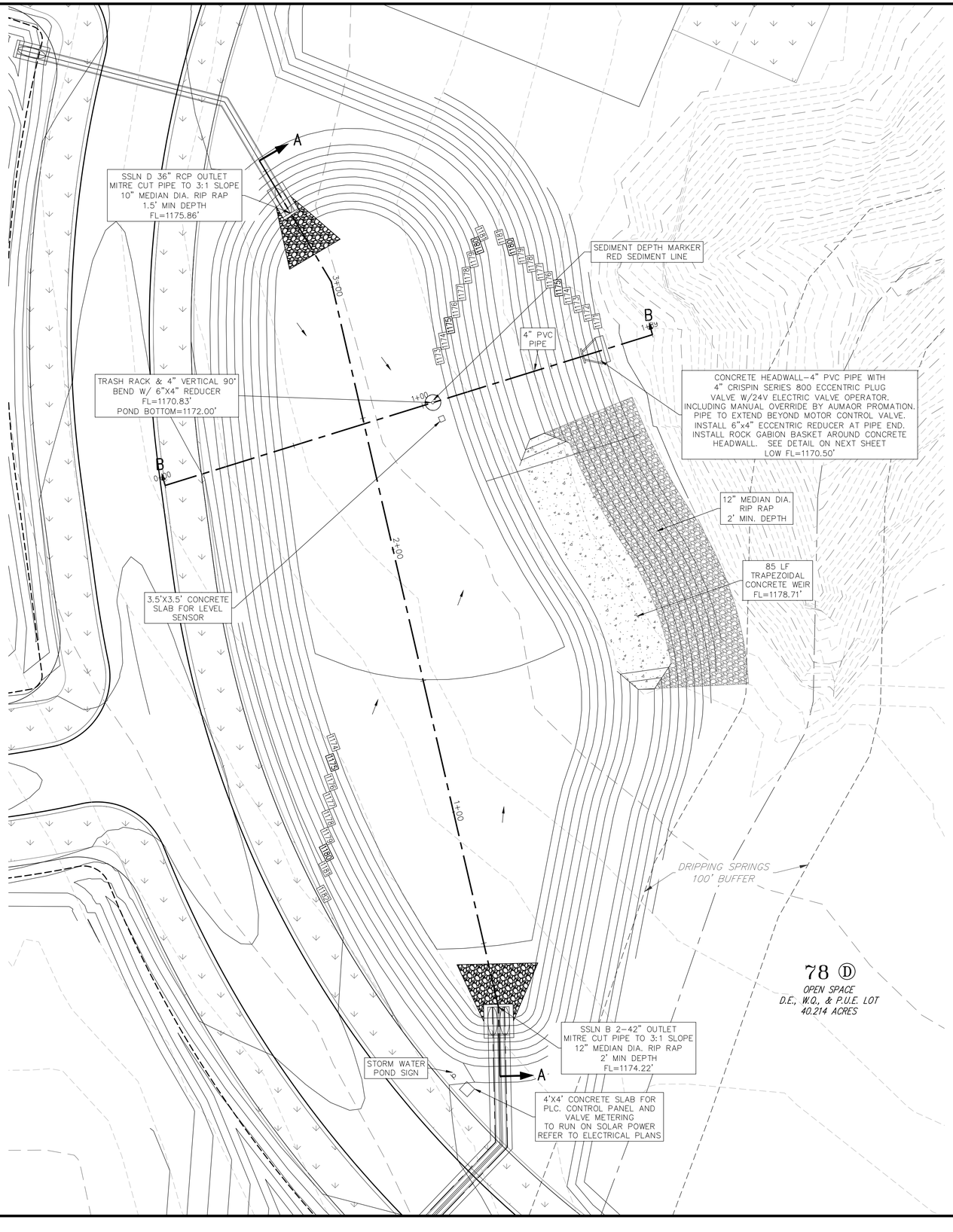
SHEET NAME: STORM SEWER LINES R & S PLAN & PROFILE (0+00-END)
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED
PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 63 OF 162



LEGEND

- 569 — EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 570 — PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOR
- FLOW ARROW

0 20' 40'

SCALE: 1" = 20'

STAGE-STORAGE TABLE

Stage	Area (sf)	Area (ac)	Incremental Storage (cf)	Cumulative Storage (cf)	Cumulative Storage (ac-ft)
1172.00	30	0.00069	0	0	0.00
1173.00	14,738	0.33834	7,384	7,384	0.17
1174.00	21,453	0.49249	18,096	25,480	0.58
1175.00	23,551	0.54066	22,502	47,982	1.10
1176.00	25,705	0.59011	24,628	72,610	1.67
1177.00	27,915	0.64084	26,810	99,420	2.28
1178.00	30,182	0.69288	29,049	128,468	2.95
1179.00	32,506	0.74624	31,344	159,812	3.67
1180.00	34,883	0.80080	33,695	193,507	4.44

LOW-FLOW ORIFICE CALCULATION

Orifice Equation: $Q = C_o{}^*A^*(2^*g^*h)^{0.5}$

WQ Volume (cf) =	146,590
WQ Elevation (ft) =	1178.71
Max. Drawdown Time (hr) =	48
Orifice Coefficient =	0.60
Orifice Diameter (in) =	4.00
Center Elev. At Discharge (ft) =	1170.67
Head at 1/2 Volume (ft) =	5.44
Q_{avg} (cfs) =	0.98
Drain Time (hr) =	**41.6**

WATER QUALITY VOLUME	
Capacity @ WQV Elev (cf) =	146,590
(ac-ft) =	3.37
WQV (cf) =	146,590
(ac-ft) =	3.37
Elevation (ft) =	**1178.71**
Depth (ft) =	6.71

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DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
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Phone No. (512) 280-5160
North Office
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Austin, Texas 78750
www.cbdeng.com

SHEET NAME: BATCH POND A PLAN VIEW

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

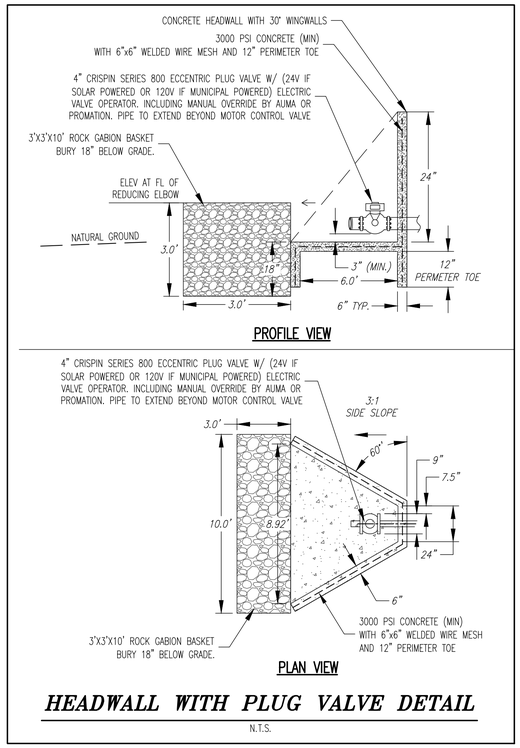
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

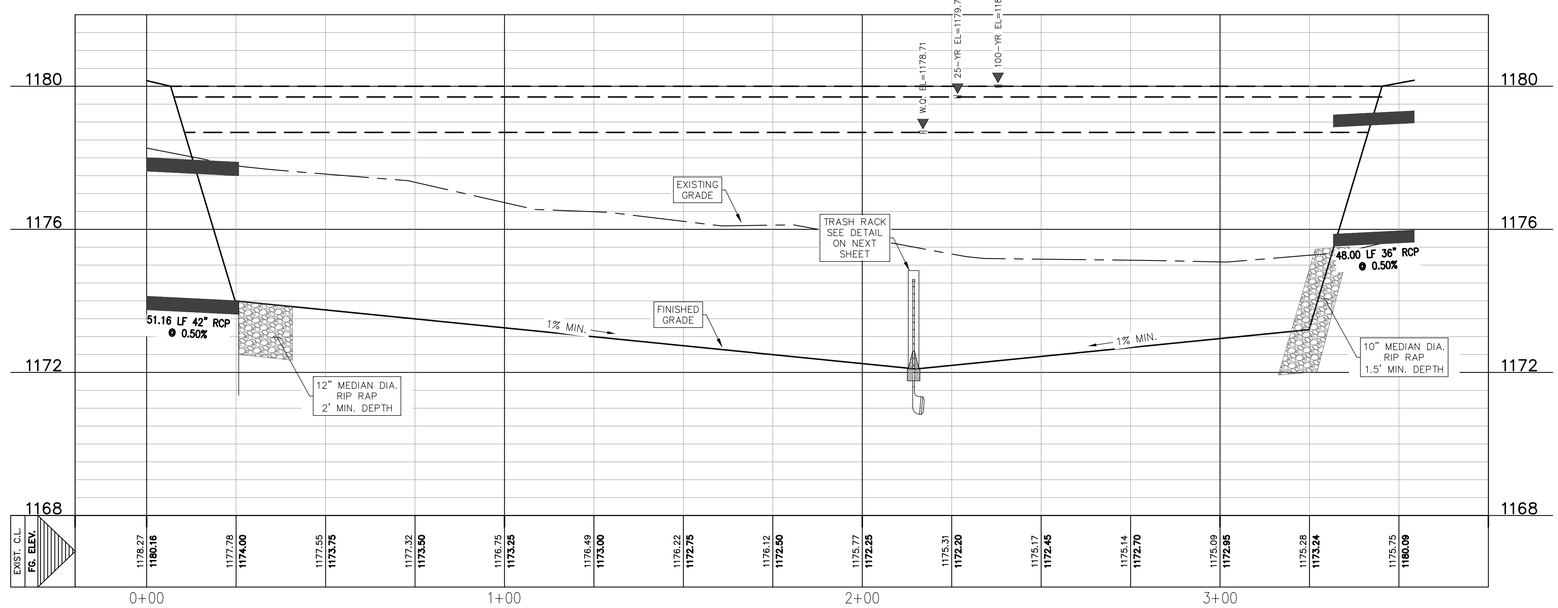
SHEET: 64 OF 162

FILE PATH: J:\ACD\5079\dwg\Construction Plans\5079-POND PLAN.dwg - Jun 14, 2023 - 11:56am



HEADWALL WITH PLUG VALVE DETAIL

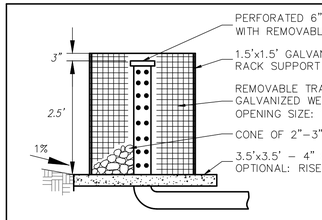
N.T.S.



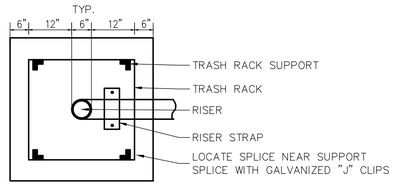
CROSS SECTION A-A

POND SECTION "A-A"

SCALE: 1"= 20' HORIZ.
1"= 1' VERT.



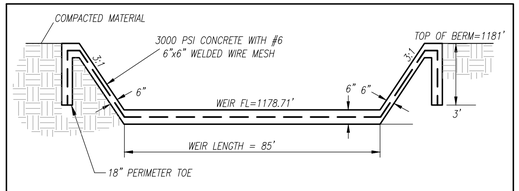
SIDE VIEW OF RISER



TOP VIEW OF RISER (SQUARE DESIGN)
TYPICAL RISER DESIGN FOR PONDS WITH EARTHEN BERMS

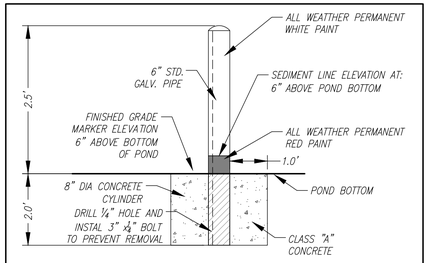
OUTFLOW RISER DETAIL

N.T.S.



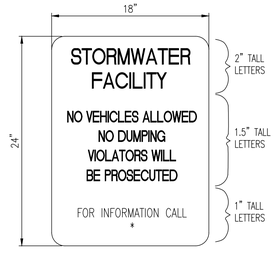
WEIR DETAIL B-B

N.T.S.



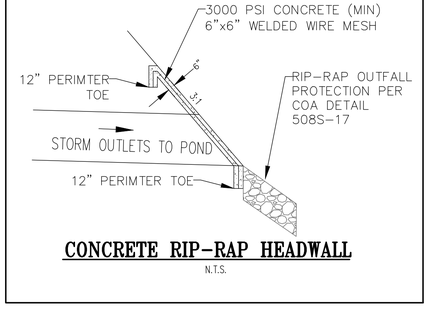
CONCRETE FILLED FIXED SEDIMENT MARKER

N.T.S.



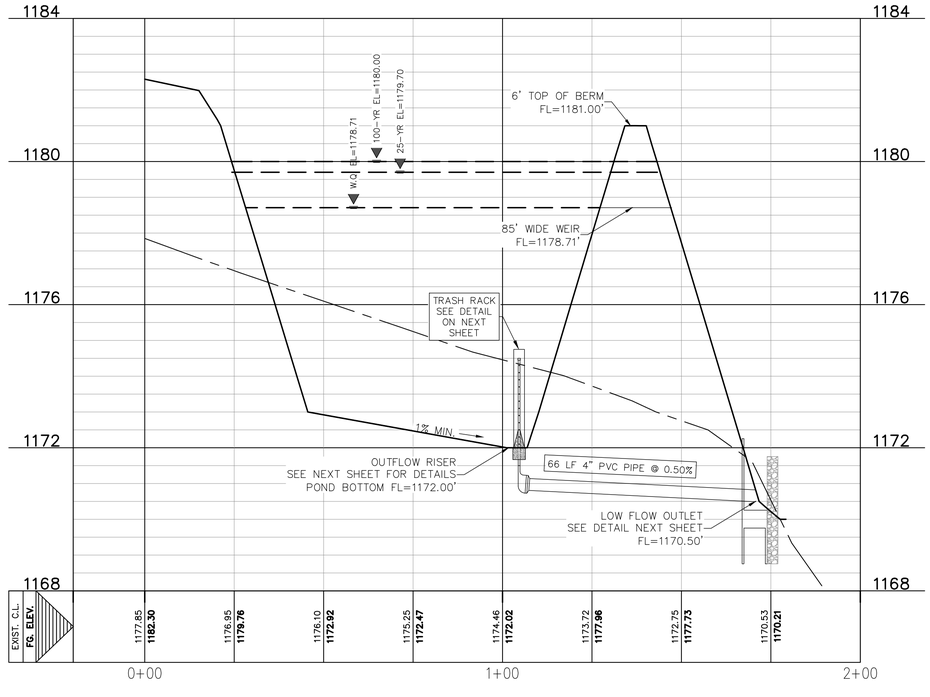
STORMWATER SIGN DETAIL

N.T.S.



CONCRETE RIP-RAP HEADWALL

N.T.S.



POND SECTION "B-B"

SCALE: 1"= 20' HORIZ.
1"= 1' VERT.

DESIGNED BY: QD | DRAFTED BY: CJP

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SHEET NAME: BATCH POND A PROFILE VIEW & DETAILS
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

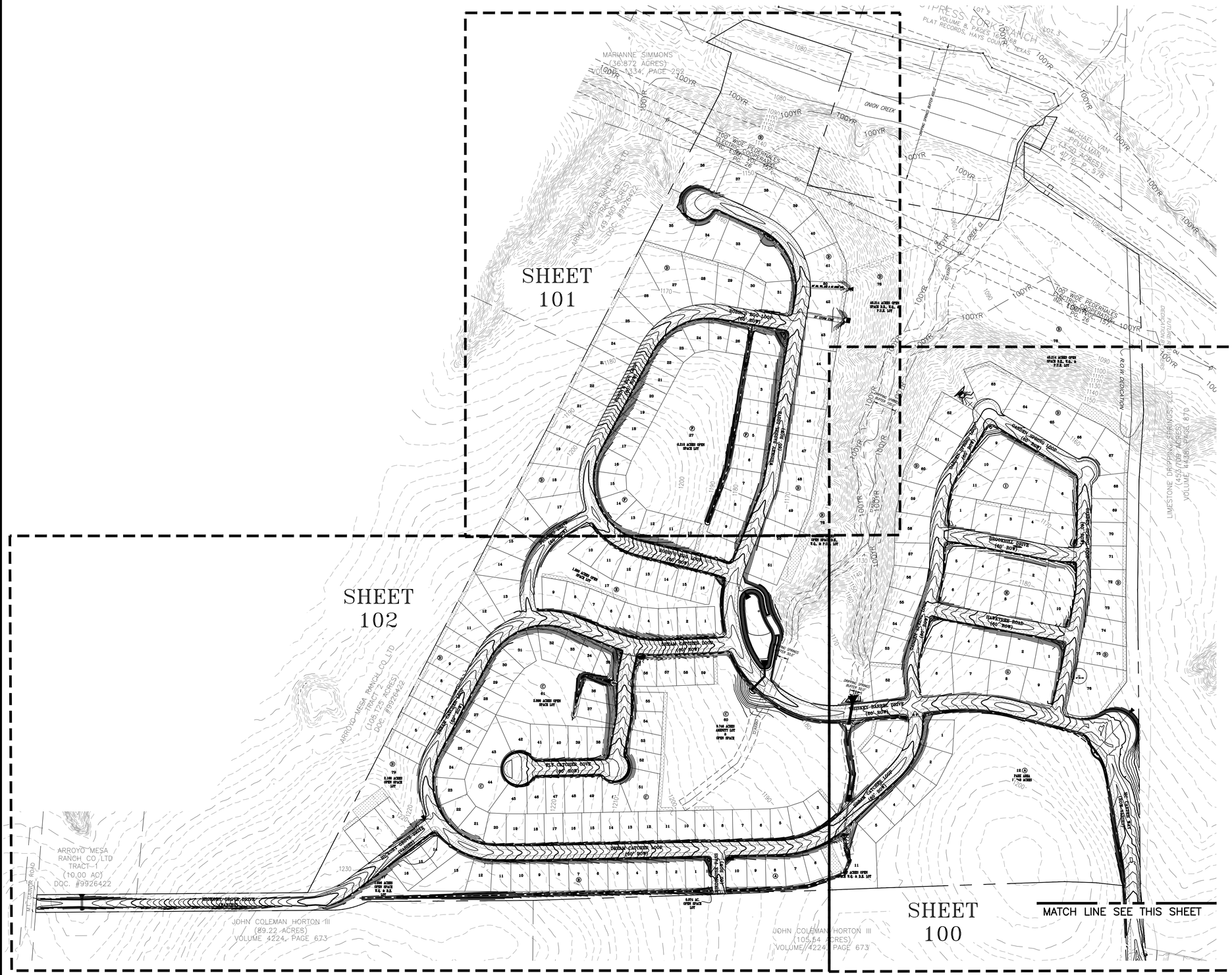
Quynn Dusek 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 65 OF 162

SUB-ENGINEERING.CTB

FILE PATH: J:\ACDS\5079\dwg\Construction Plans\5079-POND PLAN.dwg - Jun 14, 2023 - 11:56am

SUB-ENGINEERING.CTB



LEGEND

569	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
570	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOR
LP/HP	LOW POINT / HIGH POINT

0 200' 400'

SCALE: 1" = 200'

DESIGNED BY:	DRAFTED BY:
QD	CIP

DATE

REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600 Austin, Texas 78750 www.cbdeng.com

SHEET NAME: OVERALL GRADING PLAN

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

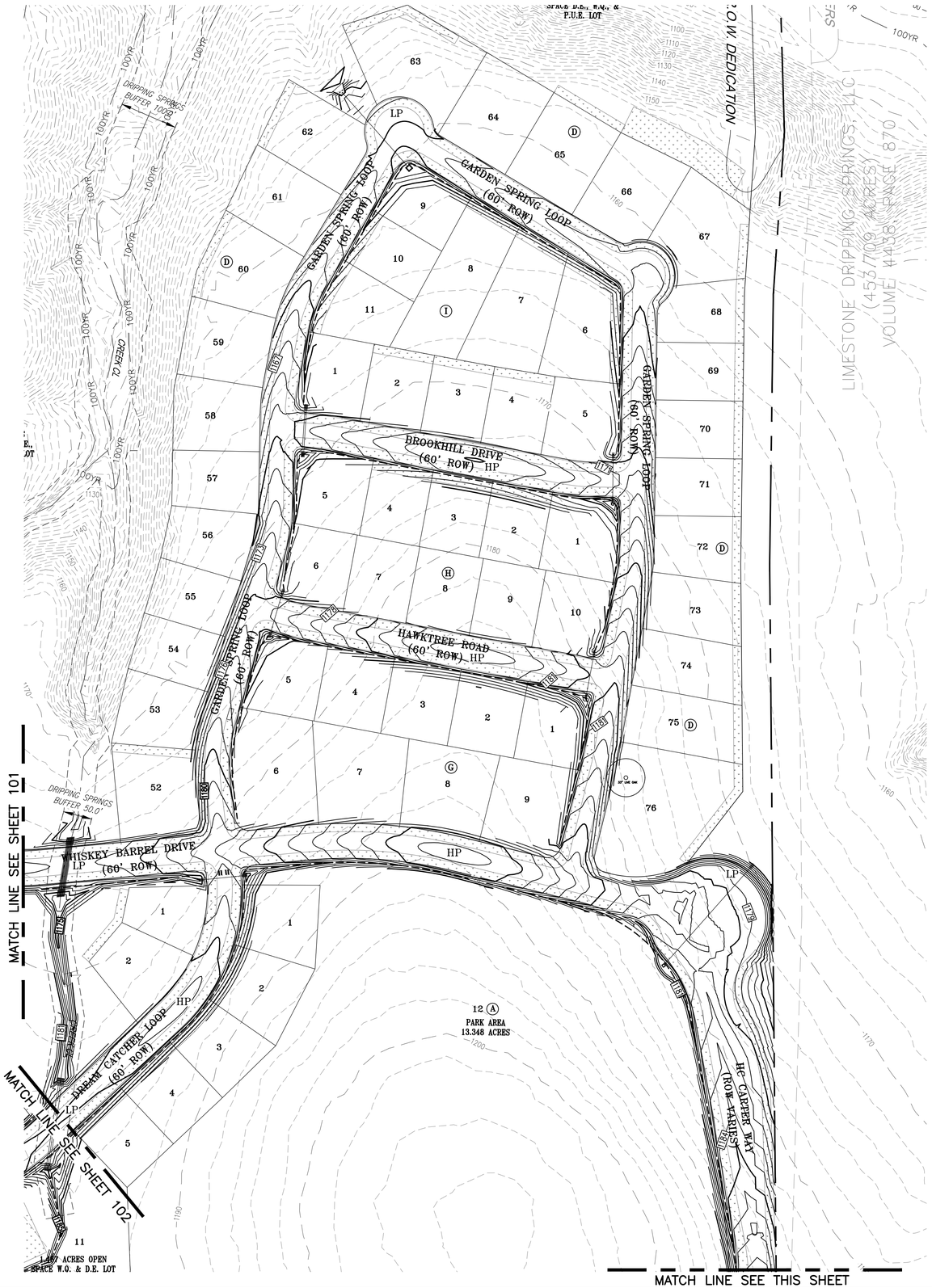
DATE
June 2023

JOB NUMBER
5079

SHEET
99 OF 162

FILE PATH: J:\JOB\5079\dwg\Construction Plans\5079-GRADING PLAN.dwg - Jun 14, 2023 - 12:51pm

SUB-ENGINEERING.CTB



LEGEND

569	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
570	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOR
LP/HP	LOW POINT / HIGH POINT

0 100' 200'

SCALE: 1" = 100'

DESIGNED BY:	DRAFTED BY:
QD	CIP

DATE

REVISION

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FIRM ID #F3791
Main Office: 5501 West William Cannon Dr. Austin, Texas 78749 Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600 Austin, Texas 78750 www.cbdeng.com

SHEET NAME: GRADING PLAN (1 OF 3)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS QUYNN DUSEK 130416 LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC. ID# F3791

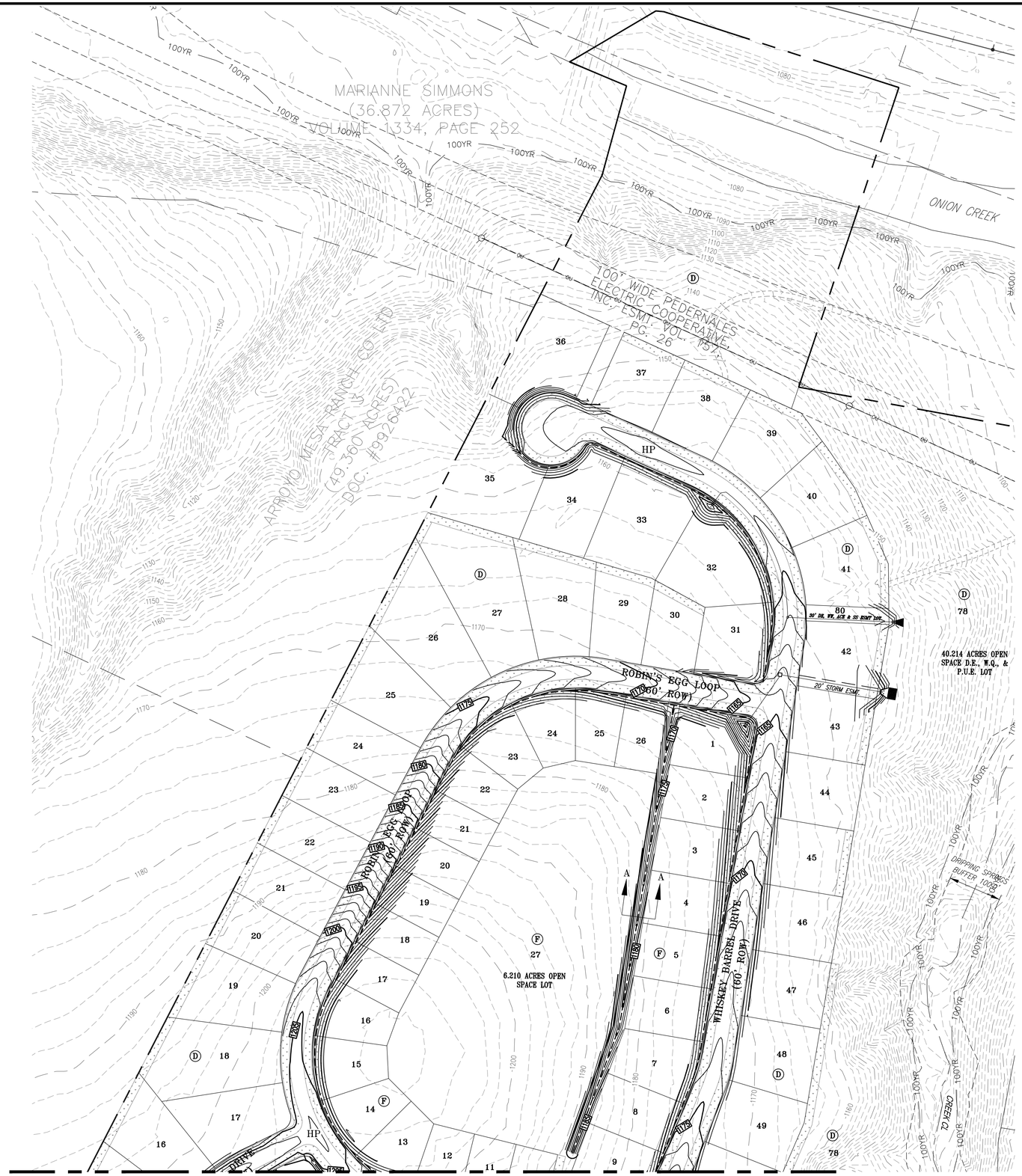
DATE June 2023

JOB NUMBER 5079

SHEET 100 OF 162

FILE PATH: I:\JOBS\5079\Eng\Construction Plans\5079-GRADING PLAN.dwg - Jun 14, 2023 - 12:52pm

SUB-ENGINEERING.CTB

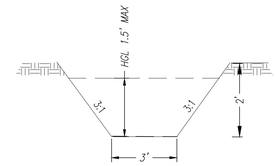


LEGEND

569	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
570	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOR
LP/HP	LOW POINT / HIGH POINT

0 100' 200'

SCALE: 1" = 100'



CROSS SECTION A-A

DESIGNED BY: QD	DRAFTED BY: CJP

DATE

REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
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Austin, Texas 78749
Phone No. (512) 280-5160
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Austin, Texas 78750
www.cbdeng.com

SHEET NAME: GRADING PLAN (2 OF 3)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE June 2023

JOB NUMBER 5079

SHEET 101 OF 162

FILE PATH: J:\ACD\5079\Dwg\Construction Plans\5079-GRADING PLAN.dwg - Jun 14, 2023 - 12:52pm

MATCH LINE SEE SHEET 101

MATCH LINE SEE SHEET 101

PICKENS (60' ROW)

ROBIN'S EGG LOOP (60' ROW)

40.214 A
OPEN SPAC
W.Q., & P.U

1.860 ACRES OPEN SPACE LOT

DREAM CATCHER LOOP (60' ROW)

HP

FLOWING SPRINGS AFTER 50.0'

MATCH LINE SEE SHEET 100

ARROYO MESA RANCH CO LTD
TRACT 2
(105.125 ACRES)
DOC. #9926422

DREAM CATCHER LOOP (60' ROW)

2.098 ACRES OPEN SPACE LOT

9.746 ACRES AMENITY LOT & OPEN SPACE

CREEK CT.

FLY CATCHER COVE (60' ROW)

LP

2.168 ACRES OPEN SPACE LOT

HICKORY GROVE DRIVE (VARIES)

DREAM CATCHER LOOP (60' ROW)

1.696 ACRES OPEN SPACE W.Q. & D.E. LOT

BIRDHOUSE PASS (60' ROW)

1.487 ACRES OPEN SPACE W.Q. & D.E. LOT

0.074 AC. OPEN SPACE LOT

MATCH LINE SEE THIS SHEET

MATCH LINE SEE THIS SHEET

ARROYO MESA RANCH CO LTD
TRACT 1
(10.00 AC)
DOC. #9926422

MT. CANNON ROAD

HICKORY GROVE DRIVE (VARIES)

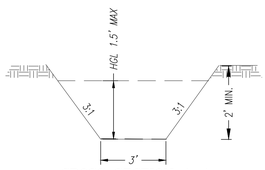
JOHN COLEMAN HORTON III
(89.22 ACRES)
VOLUME 4224, PAGE 673

LEGEND

569	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
570	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOR
LP/HP	LOW POINT / HIGH POINT

0 100' 200'

SCALE: 1" = 100'



CROSS SECTION A-A

DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE

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SHEET NAME: GRADING PLAN (3 OF 3)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

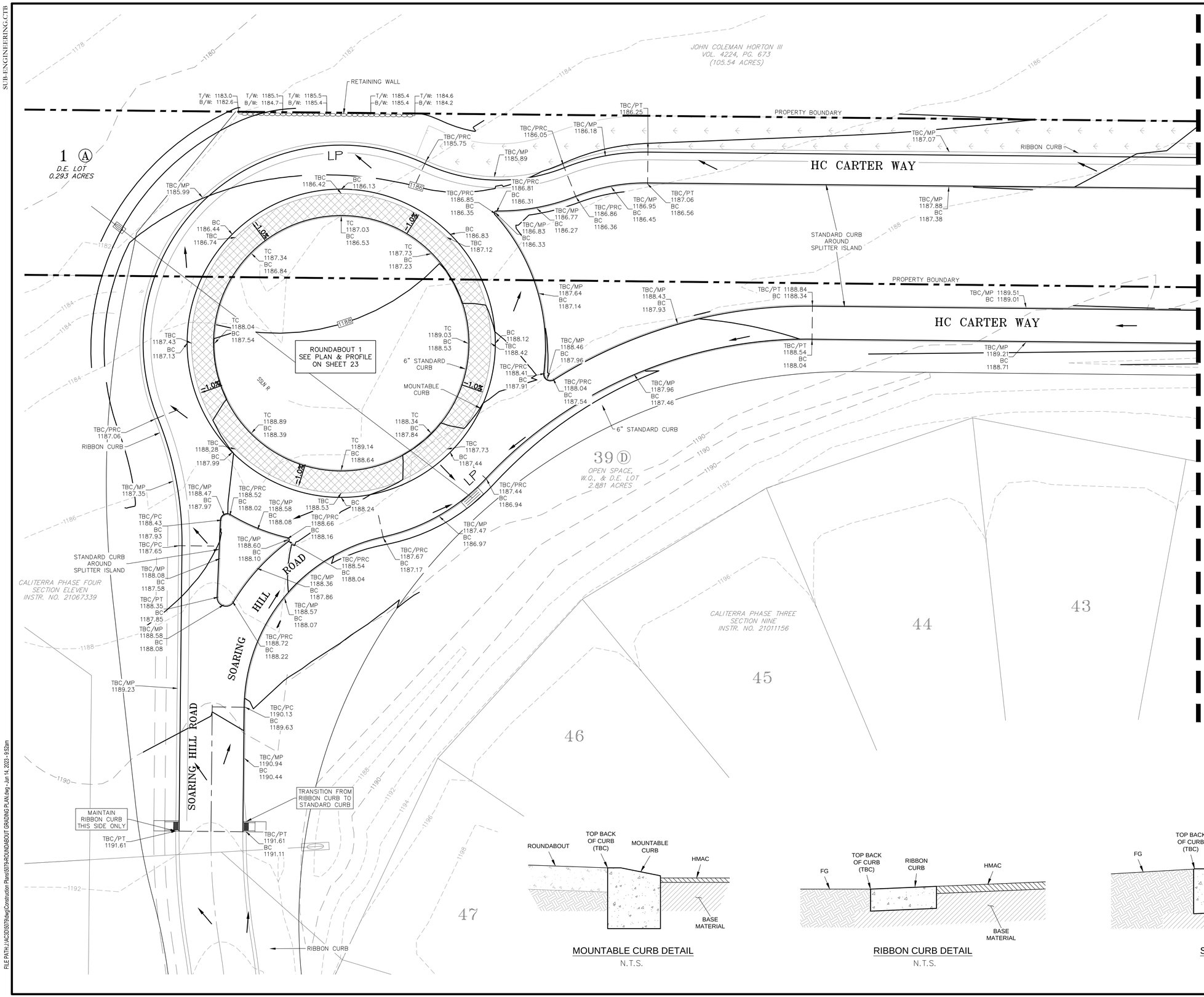
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE
June 2023

JOB NUMBER
5079

SHEET
102 OF 162

SUB-ENGINEERING.CTB



LEGEND

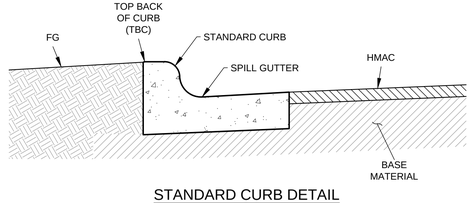
- EXISTING MAJOR CONTOUR (569)
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR (570)
- PROPOSED MINOR CONTOR
- PROPOSED SIDEWALK
- FLOW ARROW
- HP/LP — HIGH POINT/LOW POINT
- TC 1181.00 — TOP OF CURB ELEVATION
- TBC 1181.00 — TOP BACK OF CURB ELEVATION
- TBC/MP 1181.00 — MIDPOINT CURB ELEVATION
- TBC/QTRP 1181.00 — QUARTER POINT CURB ELEVATION
- BC 1181.00 — BOTTOM OF CURB ELEVATION

SCALE: 1" = 20'

THE LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE/SHE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS/HER FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND AND OVERHEAD UTILITIES.

MOUNTABLE CURB DETAIL
N.T.S.

RIBBON CURB DETAIL
N.T.S.



STANDARD CURB DETAIL
N.T.S.

DESIGNED BY: QD	DRAFTED BY: CJP

DATE

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SHEET NAME: ROUNDABOUT & MEDIAN GRADING PLAN (1 OF 3)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS — QUYNN DUSEK — 130416 — LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC. ID# F3791

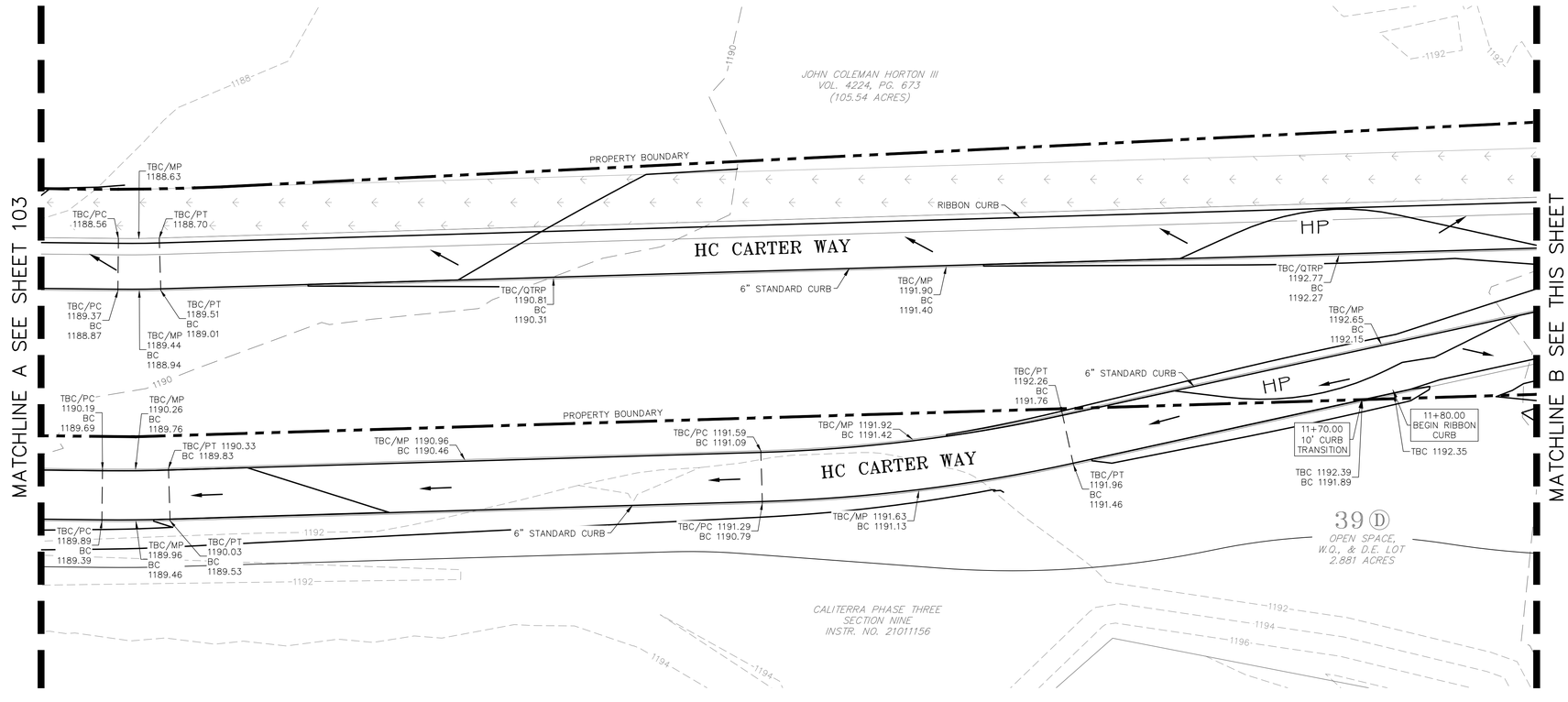
DATE: June 2023

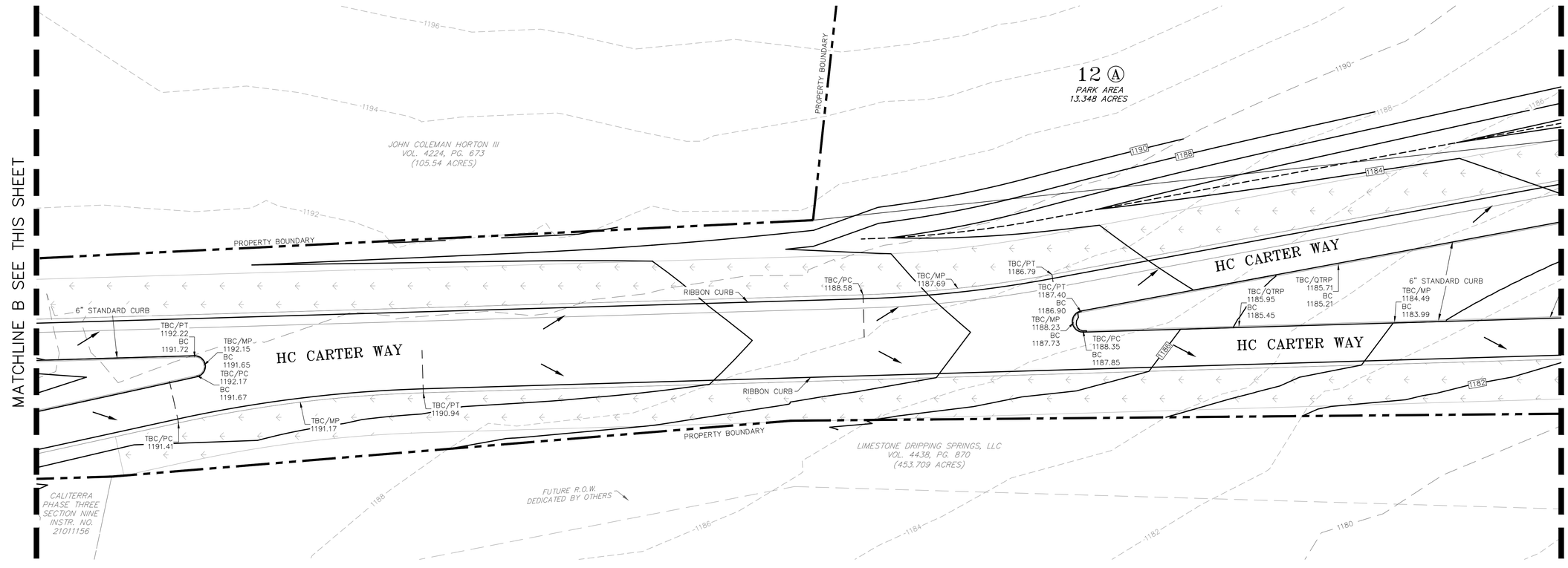
JOB NUMBER: 5079

SHEET: 103 OF 162

FILE PATH: J:\AC3\5079\dwg\Construction Plans\5079-ROUNDABOUT GRADING PLAN.dwg - Jun 14, 2023 - 9:52am

SUB-ENGINEERING.CTB





LEGEND

- EXISTING MAJOR CONTOUR (569)
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR (570)
- PROPOSED MINOR CONTOR
- PROPOSED SIDEWALK
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- TC 1181.00 — TOP OF CURB ELEVATION
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0 20' 40'

SCALE: 1" = 20'

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Quynn Dusek 6/13/2023

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130416
LICENSED PROFESSIONAL ENGINEER
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ID# F3791

DATE June 2023

JOB NUMBER 5079

SHEET 104 OF 162

FILE PATH: J:\ACAD\5079\dwg\Construction Plans\5079-ROUNDABOUT GRADING PLAN.dwg - Jun 14, 2023 - 9:52am

SUB-ENGINEERING.CTB

MATCHLINE C SEE SHEET 104

12 Ⓐ
PARK AREA
13.348 ACRES

76 Ⓓ

GARDEN SPRING LOOP

WHISKEY BARREL DRIVE

HC CARTER WAY

HC CARTER WAY

ROUNDABOUT 2
SEE PLAN & PROFILE
ON SHEET 27

LIMESTONE DRIPPING SPRINGS, LLC
VOL. 4438, PG. 870
(453.709 ACRES)

PROPERTY BOUNDARY

RETAINING WALL

6" STANDARD CURB AROUND SPLITTER ISLAND

15' VEG. FILTER STRIP

LEGEND

569	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
570	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOR
	PROPOSED SIDEWALK
	FLOW ARROW
HP/LP	HIGH POINT/LOW POINT
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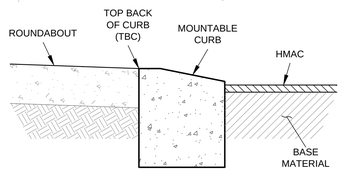
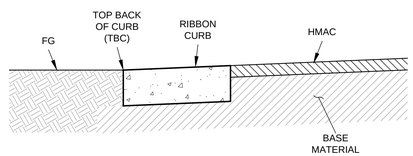
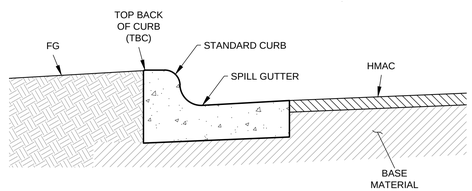
MOUNTABLE CURB DETAIL
N.T.S.



RIBBON CURB DETAIL
N.T.S.



STANDARD CURB DETAIL
N.T.S.



DESIGNED BY: QD	DRAFTED BY: CJP

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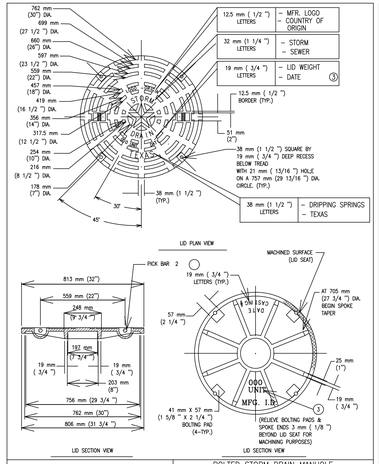
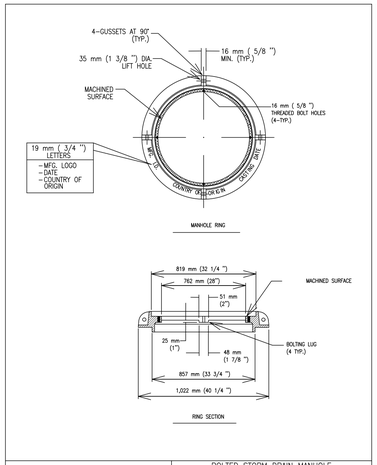
SHEET: 105 OF 162

FILE PATH: J:\ACD\5079\dwg\Construction Plans\5079-ROUNDABOUT GRADING PLAN.dwg - Jun 14, 2023 - 9:52am

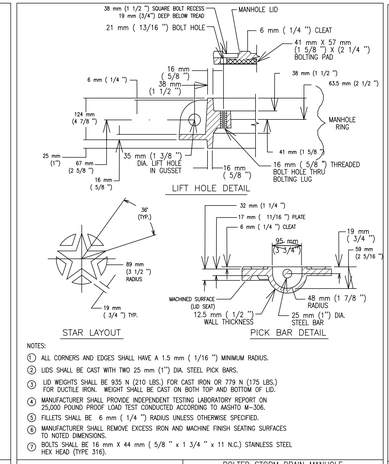
OCE-ENGINEERING.CTB



BOLTED STORM DRAIN MANHOLE RING AND 813 mm (32") COVER	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-5S 1 OF 3

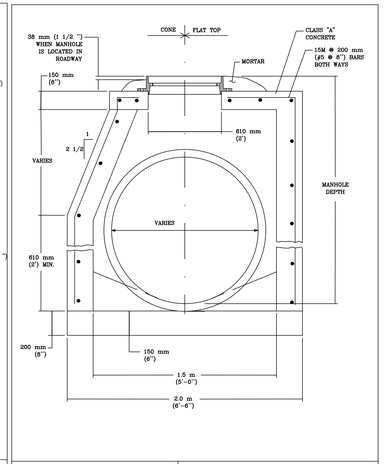


BOLTED STORM DRAIN MANHOLE RING AND 813 mm (32") COVER	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-5S 2 OF 3

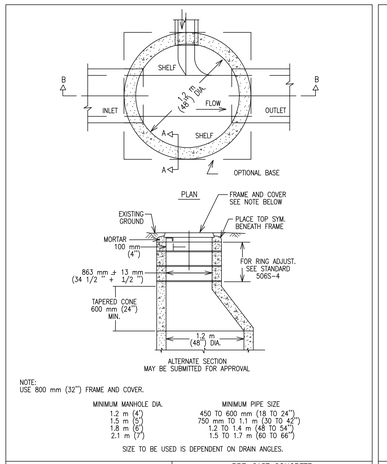


NOTES:
1. ALL CORNERS AND EDGES SHALL HAVE A 1.5 mm (1/16 ") MINIMUM RADIUS.
2. LIDS SHALL BE CAST WITH TWO 25 mm (1") DIA. STEEL PICK BARS.
3. LID WEIGHTS SHALL BE 935 N (210 LBS.) FOR CAST IRON OR 779 N (175 LBS.) FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF LID.
4. MANUFACTURER SHALL PROVIDE INDEPENDENT TESTING LABORATORY REPORT ON 25,000 POUND PROOF LOAD TEST CONDUCTED ACCORDING TO AASHTO M–306.
5. FILLETS SHALL BE 6 mm (1/4 ") RADIUS UNLESS OTHERWISE SPECIFIED.
6. MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
7. BOLTS SHALL BE 16 mm X 44 mm (5/8 " x 1 3/4 " x 11 N.C.) STAINLESS STEEL HEX HEAD (TYPE 316).

BOLTED STORM DRAIN MANHOLE RING AND 813 mm (32") COVER	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S-5S 3 OF 3



STORM DRAIN MANHOLE DETAIL	
THIS ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S–11

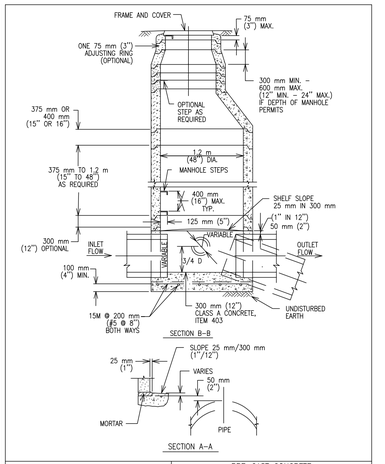


NOTE:
USE 800 mm (32") FRAME AND COVER.

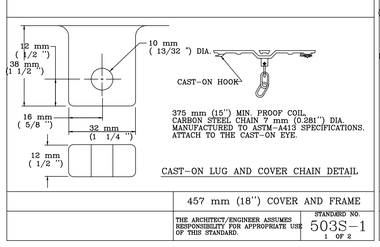
MINIMUM MANHOLE DIA.	MINIMUM PIPE SIZE
1.2 m (4')	450 TO 600 mm (18 TO 24")
1.5 m (5')	750 mm TO 1.1 m (30 TO 42")
1.8 m (6')	1.2 TO 1.4 m (48 TO 54")
2.1 m (7')	1.5 TO 1.7 m (60 TO 66")

SIZE TO BE USED IS DEPENDENT ON DRAIN ANGLES.

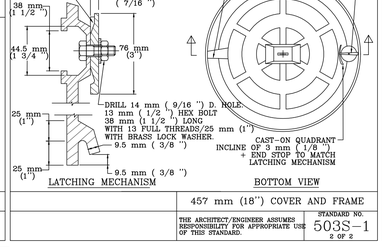
PRE–CAST CONCRETE STORM DRAIN MANHOLE	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S–3 1 OF 2



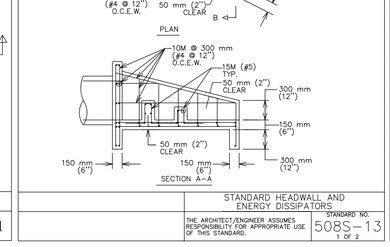
PRE–CAST CONCRETE STORM DRAIN MANHOLE	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S–3 2 OF 2



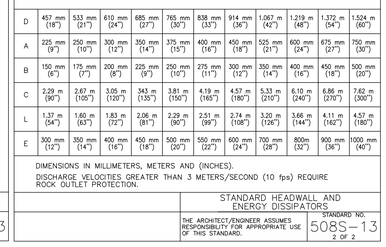
457 mm (18") COVER AND FRAME	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S–1 1 OF 2



457 mm (18") COVER AND FRAME	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 503S–1 2 OF 2



STANDARD HEADWALL AND ENERGY DISSIPATORS	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S–13 1 OF 2

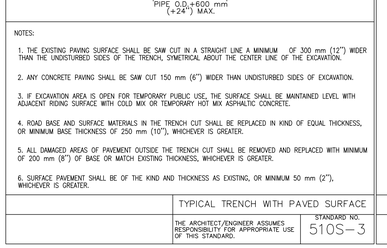


NOTES:
1. CHAMFER ALL EXTERNAL VISIBLE CORNERS.
2. DISSIPATOR BLOCKS REQUIRED ON DISCHARGE HEADWALLS ONLY.

D	457 mm (18")	533 mm (21")	610 mm (24")	685 mm (27")	765 mm (30")	838 mm (33")	914 mm (36")	1.067 m (42")	1.219 m (48")	1.372 m (54")	1.524 m (60")
A	225 mm (9")	250 mm (10")	300 mm (12")	350 mm (14")	375 mm (15")	400 mm (16")	450 mm (18")	525 mm (21")	600 mm (24")	675 mm (27")	750 mm (30")
B	150 mm (6")	175 mm (7")	200 mm (8")	225 mm (9")	250 mm (10")	275 mm (11")	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")
C	2.29 m (90")	2.67 m (105")	3.05 m (120")	343 m (135")	3.81 m (150")	4.19 m (165")	4.57 m (180")	5.33 m (210")	6.10 m (240")	6.86 m (270")	7.62 m (300")
L	1.37 m (54")	1.60 m (63")	1.83 m (72")	2.06 m (81")	2.29 m (90")	2.51 m (99")	2.74 m (108")	3.20 m (126")	3.66 m (144")	4.11 m (162")	4.57 m (180")
E	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	700 mm (28")	800m (32")	900 mm (36")	1000 mm (40")

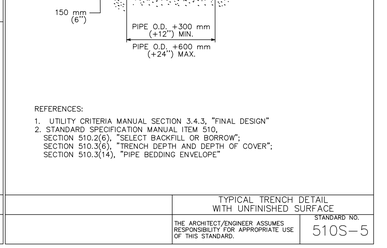
DIMENSIONS IN MILLIMETERS, METERS AND (INCHES).
DISCHARGE VELOCITIES GREATER THAN 3 METERS/SECOND (10 fps) REQUIRE ROCK OUTLET PROTECTION.

STANDARD HEADWALL AND ENERGY DISSIPATORS	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S – 13 2 OF 2



NOTES:
1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 300 mm (12") WIDER THAN THE UNDISTURBED SIDES OF THE TRENCH, SYMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
2. ANY CONCRETE PAVING SHALL BE SAW CUT 150 mm (6") WIDER THAN UNDISTURBED SIDES OF EXCAVATION.
3. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX OR TEMPORARY HOT MIX ASPHALTIC CONCRETE.
4. ROAD BASE AND SURFACE MATERIALS IN THE TRENCH CUT SHALL BE REPLACED IN KIND OF EQUAL THICKNESS, OR MINIMUM BASE THICKNESS OF 250 mm (10"), WHICHEVER IS GREATER.
5. ALL DAMAGED AREAS OF PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH MINIMUM OF 200 mm (8") OF BASE OR MATCH EXISTING THICKNESS, WHICHEVER IS GREATER.
6. SURFACE PAVEMENT SHALL BE OF THE KIND AND THICKNESS AS EXISTING, OR MINIMUM 50 mm (2"), WHICHEVER IS GREATER.

TYPICAL TRENCH WITH PAVED SURFACE	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S–3



REFERENCES:
1. UTILITY CRITERIA MANUAL SECTION 3.4.3, "FINAL DESIGN"
2. STANDARD SPECIFICATION MANUAL ITEM 510, SECTION 510.2(6), "SELECT BACKFILL OR BORROW"; SECTION 510.3(6), "TRENCH DEPTH AND DEPTH OF COVER"; SECTION 510.3(14), "PIPE BEDDING ENVELOPE"

TYPICAL TRENCH DETAIL WITH UNFINISHED SURFACE	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S–5

NOTES:
1. IF PC CONCRETE IS USED AROUND THE MANHOLE, THE CONCRETE SHALL BE REINFORCED WITH #5 (15M) BARS AS SHOWN. THE CONCRETE SHALL EXTEND TO EDGE OF SAW CUT PAVEMENT EDGE.
2. REQUIREMENTS FOR NEW MANHOLE CONSTRUCTION AND MINOR MANHOLE ADJUSTMENTS IN NEW, RECONSTRUCTION AND REPAVING PROJECTS ARE INCLUDED IN STANDARD NO. 506S-4 AND 506S-4A.
3. REQUIREMENTS FOR WATER VALVE ADJUSTMENTS ARE INCLUDED IN STANDARD DETAILS 511S-13A AND 511S-13B.
4. REPLACEMENT HMAC SURFACE LAYER SHALL BE OF THE TYPE AND THICKNESS BASED ON FUNCTIONAL CLASSIFICATION OF:
a) MIN. 2" (50 mm) HMAC TYPE "D" FOR TRENCH REPAIR IN LOCAL/RESIDENTIAL STREETS.
b) MIN. 3" (75 mm) HMAC TYPE "C" FOR TRENCH REPAIR IN COLLECTOR/ARTERIAL STREETS. SEE ITEM 340S, SECTION 340S.4.
5. REFER TO UCM SECTION 5.8.3 FOR ADDITIONAL BACKFILL REQUIREMENTS.

CASTING ADJUSTMENT	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1100S-1

TYPICAL DETAILS FOR CURB INLET	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S–3 1 OF 4

TYPICAL DETAILS FOR CURB INLET	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S–3 2 OF 4

TABLE OF QUANTITIES
FOR 18" OUTLET PIPE
REINFORCING STEEL QUANTITIES

BARS	SIZE	SPACING	NUMBER	LENGTH	WEIGHT
A	4	230mm (9")*	15	2 m (7'–0")	73
B	4	250 mm (10")	4	3.25 m (10'–8")	29
C	4	460 mm (18")	7	7.60 mm (25'–0")	12
D	6	150 mm (6")	5	3.25 m (10'–8")	80
E	4	300 mm (12")	6	7.60 mm (25'–0")	10
F	4	250 mm (10")	3	4 m (13'–0")	35
G	4	300 mm (12")	11	1.25 m (4'–3")	31
H	6	–	1	4.25 m (14'–0")	20
J	4	300 mm (12")	7	3.25 m (10'–8")	50
K	4	230 mm (9")*	30	800 mm (2'–7 1/2")	52
L	4	300 mm (12")*	6	1.3 m (4'–4")	17
M	4	–	4	500 mm (1'–8") AVG	4
TOTAL STEEL, LB.					413
TOTAL CONCRETE, C.Y.					4.06

* EXCEPT AS SHOWN ON PLAN

TYPICAL DETAILS FOR CURB INLET	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S–3 3 OF 4

NOTES:
1. ALL CONCRETE SHALL BE CLASS "A"
2. ALL REINFORCING STEEL SHALL BE GRADE 60
3. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
4. VERTICAL STEEL MAY BE SPLICED (380 mm or 15" MIN. LAP) IN THE LOWER ONE–HALF OF ALL INLET WALLS.S. IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, PIPES AND MANHOLE FRAME, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.
6. QUANTITIES SHOWN HEREON ARE FOR THE CONTRACTOR'S INFORMATION ONLY. PAYMENT WILL BE MADE FOR EACH INLET OF THE TYPE SPECIFIED, COMPLETE IN PLACE INCLUDING MANHOLE FRAME AND OVER.
7. CHAMFER ALL EXPOSED EDGES 20 mm (3/4 ").
8. MANHOLE FRAME AND COVER SHALL BE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD 503S–1.
9. THE CONTRACTOR MAY PROPOSE ALTERNATE PROCEDURES FOR THE CONSTRUCTION OF INLETS, INCLUDING PRECAST UNITS. PLANS FOR SUCH PROPOSED ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE CONSTRUCTION.
10. ALL INLET WALLS SHALL BE FORMED EXCEPT WHERE THE NATURE OF THE SURROUNDING MATERIAL IS SUCH THAT IT CAN BE TRIMMED TO A SMOOTH VERTICAL FACE. WHEN INLET WALLS ARE PLACED TO NEAT EXCAVATION LINES THE WALL THICKNESS SHALL NOT EXCEED 10 INCHES.
11. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB.
12. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE, SHAPED AS "V" SECTION
13. NO SPLICING OF REINFORCING STEEL SHALL BE PERMITTED UNLESS OTHERWISE NOTED ON THE PLANS OR PERMITTED IN WRITING BY THE ENGINEER.

REFERENCES:
FOR EXPANSION JOINT DOWEL AND DOWEL LOCATION DETAILS SEE STD. 430S–3, "CURB EXPANSION JOINT DOWEL DETAIL".
FOR 18" MANHOLE FRAME AND COVER DETAILS SEE STD. 503S–1, "18" COVER AND FRAME".

TYPICAL DETAILS FOR CURB INLET	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S–3 4 OF 4

NOTES:
1. CHAMFER ALL EXPOSED EDGES 20 mm (3/4").
2. REINFORCING STEEL SHALL BE CUT OR FIELD–BENT AS REQUIRED TO CLEAR PIPE AND INLET FRAME OPENING. ALL CUT STEEL SHALL BE REPLACED WITH ADDITIONAL DIAGONAL BARS OF THE SAME DIAMETER.
3. INLET FRAME AND COVER SHALL BE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD 503S–1.
4. CONCRETE COVERAGE OF STEEL SHALL BE 50 mm (2") MIN. AT ALL SURFACES.

4–SIDED AREA INLET	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S–9

DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

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SHEET NAME: STANDARD CONSTRUCTION DETAILS (1 OF 5)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS QUYNN DUSEK 130416 LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC. ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 116 OF 162

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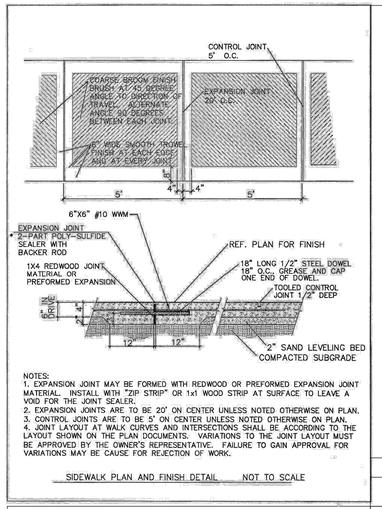
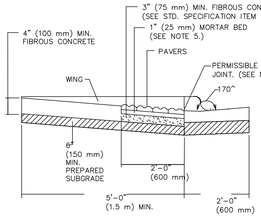
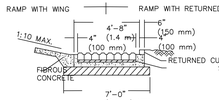


NOTES:
1. EXPANSION JOINT MAY BE FORMED WITH REDWOOD OR PREFORMED EXPANSION JOINT MATERIAL INSTALL WITH "ZIP STRIP" OR 1x1 WOOD STRIP AT SURFACE TO LEAVE A VOID FOR THE JOINT SEALER.
2. EXPANSION JOINTS ARE TO BE 20' ON CENTER UNLESS NOTED OTHERWISE ON PLAN.
3. CONTROL JOINTS ARE TO BE 5' ON CENTER UNLESS NOTED OTHERWISE ON PLAN.
4. JOINT LAYOUT AT WALK CURVES AND INTERSECTIONS SHALL BE ACCORDING TO THE LAYOUT SHOWN ON THE PLAN DOCUMENTS. VARIATIONS TO THE JOINT LAYOUT MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE. FAILURE TO GAIN APPROVAL FOR VARIATIONS MAY BE CAUSE FOR REJECTION OF WORK.

SIDEWALK PLAN AND FINISH DETAIL NOT TO SCALE

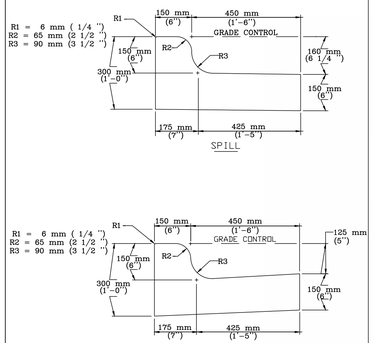


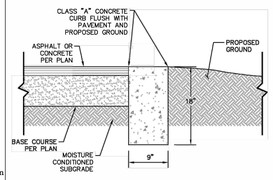
CROSS SECTION



FRONT END VIEW

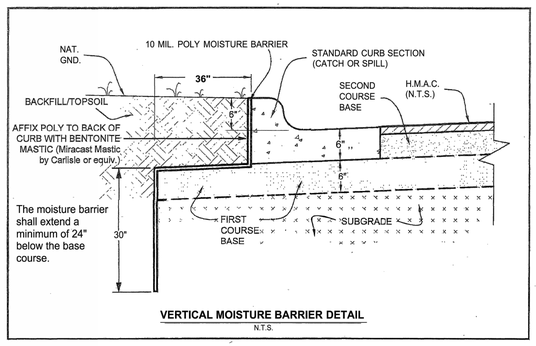
GENERAL NOTES:
1. THIS STANDARD IS APPLICABLE FOR RAMP CONSTRUCTION ON CITY PROPERTY AND EASEMENT AREAS ONLY.
2. PAVERS ARE REQUIRED FOR ALL CURB RAMP INSTALLATIONS.
3. PAVERS WILL HAVE DETECTABLE WARNING THAT CONSISTS OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 0.9" (23 mm), A NOMINAL HEIGHT OF 0.2" (5 mm) AND A NOMINAL CENTER TO CENTER SPACING OF 2.35" (60 mm) AND SHALL CONSTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT (Ref. ADAAG SECTION 4.29.2). MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. PAVER PATTERN SHALL BE BASKET WEAVE UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
4. TYPICAL SIDEWALK WIDTHS AND CURB RADII ARE SHOWN FOR ILLUSTRATION ONLY. REFER TO THE TRANSPORTATION CRITERIA MANUAL FOR SIDEWALK WIDTHS, CURB RADII AND CURB BASIS.
5. THE PERMISSIBLE CONSTRUCTION JOINT BETWEEN THE PAVERS AND THE ADJOINING 1:1 SURFACE SHALL BE LIMITED TO 4" (6 mm) JOINT SIZE. GAPS LARGER THAN 4" (6 mm) MUST BE APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. ALL JOINTS BETWEEN BRICKS AND ADJOINING SURFACE SHALL BE MORTAR FILLED UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
6. MORTAR SHALL CONFORM TO STD. SPECIFICATION ITEM SECTION 403S.3.5, MORTAR AND GROUT. ALL OTHER CONCRETE SHALL CONFORM TO STD. SPECIFICATION ITEM 403S, CONCRETE FOR STRUCTURES, UNLESS OTHERWISE NOTED.
7. CURB RAMPS WITH RETURNED CURB MAY ONLY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK DIAGONALLY ACROSS THE RAMP.





Header Curb Detail

NOT-TO-SCALE



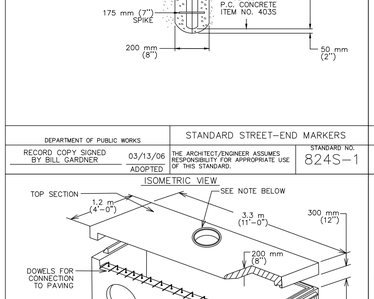
VERTICAL MOISTURE BARRIER DETAIL

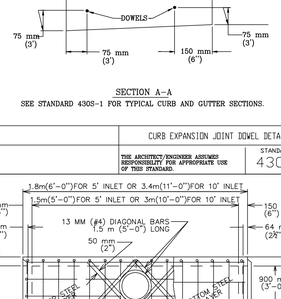
N.T.S.

DETECTABLE WARNING–PAVER (CITY PROPERTY/EASEMENTS)		STANDARD NO.
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	1 OF 2	432S-2A

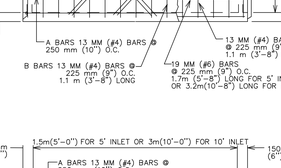
DETECTABLE WARNING–PAVER (CITY PROPERTY/EASMENTS)		STANDARD NO.
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	2 OF 2	432S-2A

CURB AND GUTTER SECTION		STANDARD NO.
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.		430S-1



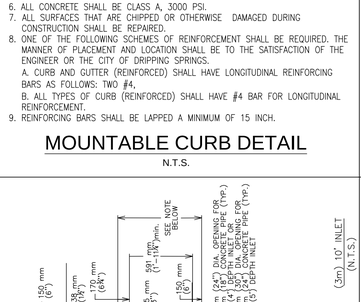


CURB EXPANSION JOINT DOWEL DETAIL



SECTION A–A

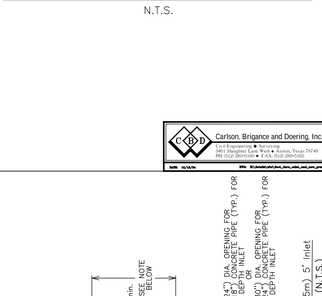
SEE STANDARD 430S-1 FOR TYPICAL CURB AND GUTTER SECTIONS.



NOTES:
1. ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, A615M, C309, AND D1752. BROOM FINISH EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD. ASTM D-1752.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB IS ADJACENT TO SIDEWALK OR RIP-RAP.
5. TRANSITIONS BETWEEN CURBS OR DIFFERING CROSS SECTIONS SHALL OCCUR OVER A 20 FOOT LENGTH AS APPROVED BY THE ENGINEER OR THE CITY OF DRIPPING SPRINGS.
6. ALL CONCRETE SHALL BE CLASS A, 3000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. ONE OF THE FOLLOWING SCHEMES OF REINFORCEMENT SHALL BE REQUIRED. THE MANNER OF PLACEMENT AND LOCATION SHALL BE TO THE SATISFACTION OF THE ENGINEER OR THE CITY OF DRIPPING SPRINGS.
   A. CURB AND GUTTER (REINFORCED) SHALL HAVE LONGITUDINAL REINFORCING BARS AS FOLLOWS: TWO #4,
   B. ALL TYPES OF CURB (REINFORCED) SHALL HAVE #4 BAR FOR LONGITUDINAL REINFORCEMENT.
9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 15 INCH.

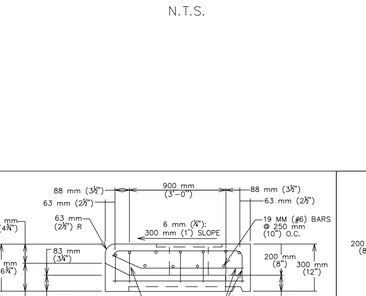
MOUNTABLE CURB DETAIL

N.T.S.



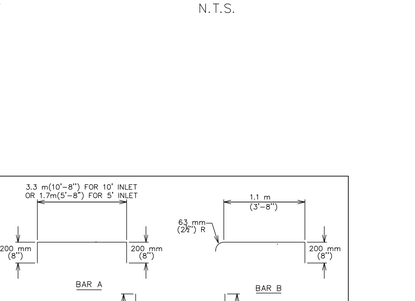
EXISTING TO PROPOSED JOINT

N.T.S.



CONCRETE RIP-RAP HEADWALL

N.T.S.

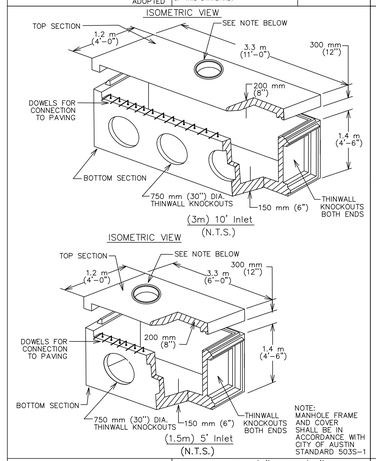


REINFORCED RIBBON CURB DETAIL

N.T.S.

DEPARTMENT OF PUBLIC WORKS		STANDARD STREET-END MARKERS	
RECORD COPY SIGNED BY BILL GARDNER	03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 824S-1

CURB EXPANSION JOINT DOWEL DETAIL		
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.		STANDARD NO. 430S-3

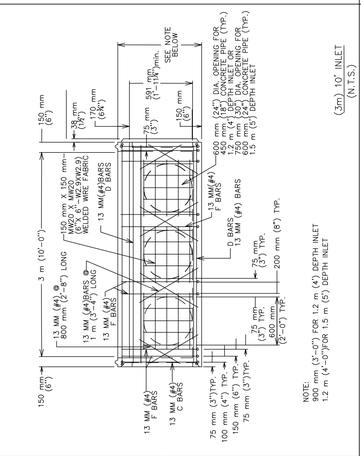


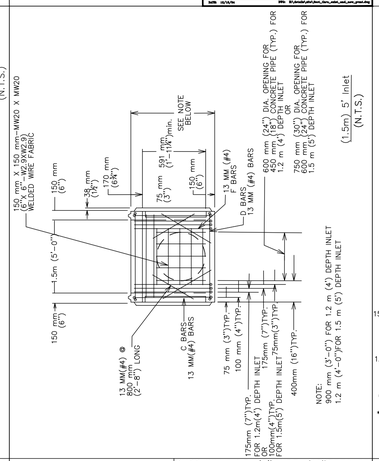
(3m) 10' Inlet
(N.T.S.)

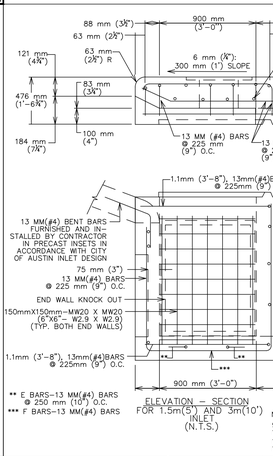
(1.5m) 5' Inlet
(N.T.S.)

NOTE:
MANHOLE FRAME AND COVER SHALL BE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD 5035-1

INLET TOP
FOR 1.5m(5') AND 3m(10')INLET
(N.T.S.)



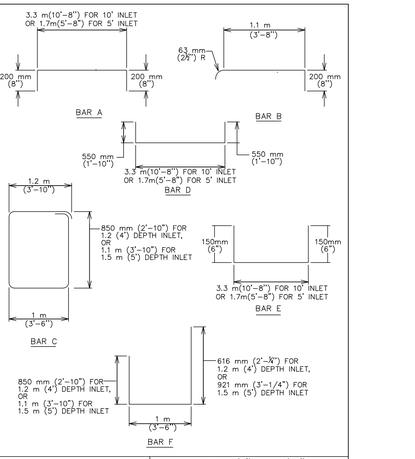




** E BARS–13 MM(#4) BARS @ 250 mm (10") O.C.
*** F BARS–13 MM(#4) BARS

ELEVATION – SECTION
FOR 1.5m(5') AND 3m(10')
INLET
(N.T.S.)

NOTE:
900 mm (3'-0") FOR 1.2 m (4') DEPTH INLET
1.2 m (4'-0")FOR 1.5 m (5') DEPTH INLET



CURB INLET 1.5m(5')AND3m(10')PRECAST TYPE 1 OR TYPE 1–R		STANDARD NO.
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	1 OF 7	508S-4

CURB INLET 1.5m(5')AND3m(10')PRECAST TYPE 1 OR TYPE 1–R		STANDARD NO.
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	2 OF 7	508S-4

CURB INLET 1.5m(5')AND3m(10')PRECAST TYPE 1 OR TYPE 1–R		STANDARD NO.
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	3 OF 7	508S-4

CURB INLET 1.5m(5')AND3m(10')PRECAST TYPE 1 OR TYPE 1–R		STANDARD NO.
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	4 OF 7	508S-4

CURB INLET 1.5m(5')AND3m(10')PRECAST TYPE 1 OR TYPE 1–R		STANDARD NO.
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	5 OF 7	508S-4

CURB INLET 1.5m(5')AND3m(10')PRECAST TYPE 1 OR TYPE 1–R		STANDARD NO.
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	6 OF 7	508S-4

NOTES:
1. ALL CONCRETE SHALL BE CLASS "A" AS PER ITEM 403S.
2. ALL REINFORCING STEEL SHALL BE GRADE 60
3. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
4. IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, PIPES AND MANHOLE FRAME, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.
5. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB, IN ACCORDANCE WITH CITY OF AUSTIN STANDARD INLET DESIGN.
6. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE BY CONTRACTOR, SHAPED AS "V" SECTION
7. THIS STANDARD COMPLIES WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS ITEM NO. 508S.
8. WHEN PLACING PRECAST INLETS IN SERIES TO CREATE A 15'-0" OR 20'-0" CURB INLET, THE CONNECTION BETWEEN INLET BOXES SHALL BE SOIL TIGHT AND FULLY CONVEY THE PEAK DESIGN FLOW FROM THE UPSTREAM INLET(S). THE 1:20 INVERT SLOPE DESCRIBED IN NOTE 6 OF THIS DETAIL SHALL EXTEND FROM THE MOST DOWNSTREAM POINT TO THE MOST UPSTREAM OF THE CONNECTED INLET BOXES. AT NO TIME CAN MORE THAN 20–LF OF CURB OPENING BE CONNECTED TO A MAIN STORM DRAIN LINE WITH ONE LATERAL STORM DRAIN CONNECTION.

DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE

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FIRM ID #F3791

SHEET NAME: STANDARD CONSTRUCTION DETAILS (2 OF 5)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

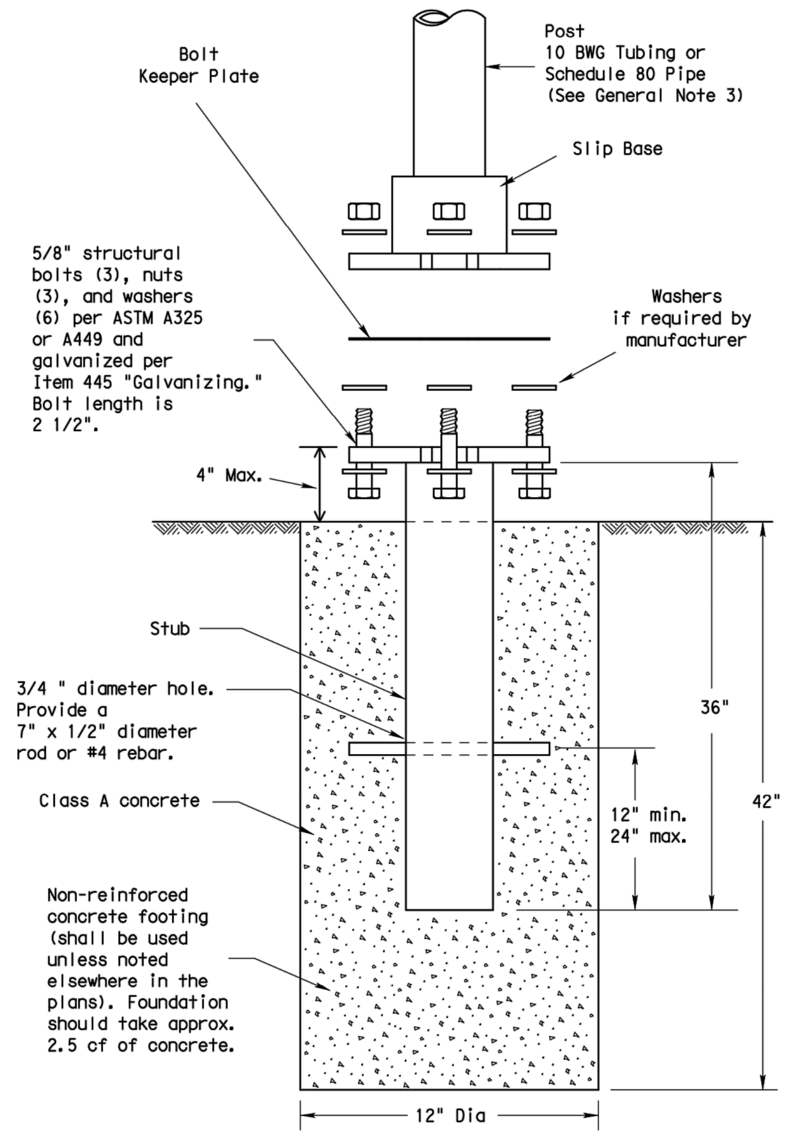
Quynn Dusek
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE June 2023

JOB NUMBER 5079

SHEET 117 OF 162

TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. http://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

1. Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   - 0.134" nominal wall thickness
   - Seamless or electric-resistance welded steel tubing or pipe
   - Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   - Other steels may be used if they meet the following:
     - 55,000 PSI minimum yield strength
     - 70,000 PSI minimum tensile strength
     - 20% minimum elongation in 2"
   - Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   - Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
   - Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.

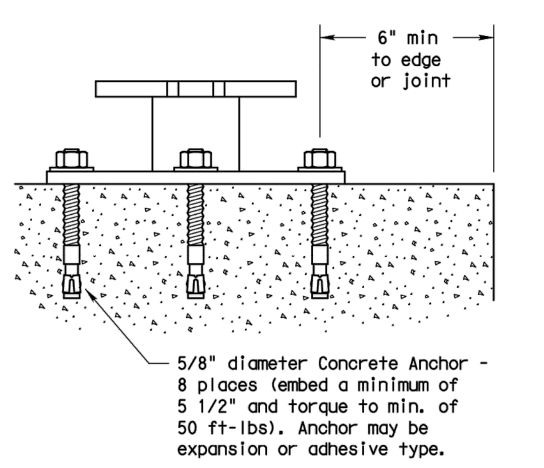
   Schedule 80 Pipe (2.875" outside diameter)
   - 0.276" nominal wall thickness
   - Steel tubing per ASTM A500 Gr C
   - Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
     - 46,000 PSI minimum yield strength
     - 62,000 PSI minimum tensile strength
     - 21% minimum elongation in 2"
   - Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
   - Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   - Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is: http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

Foundation
1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support
1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

CONCRETE ANCHOR



Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

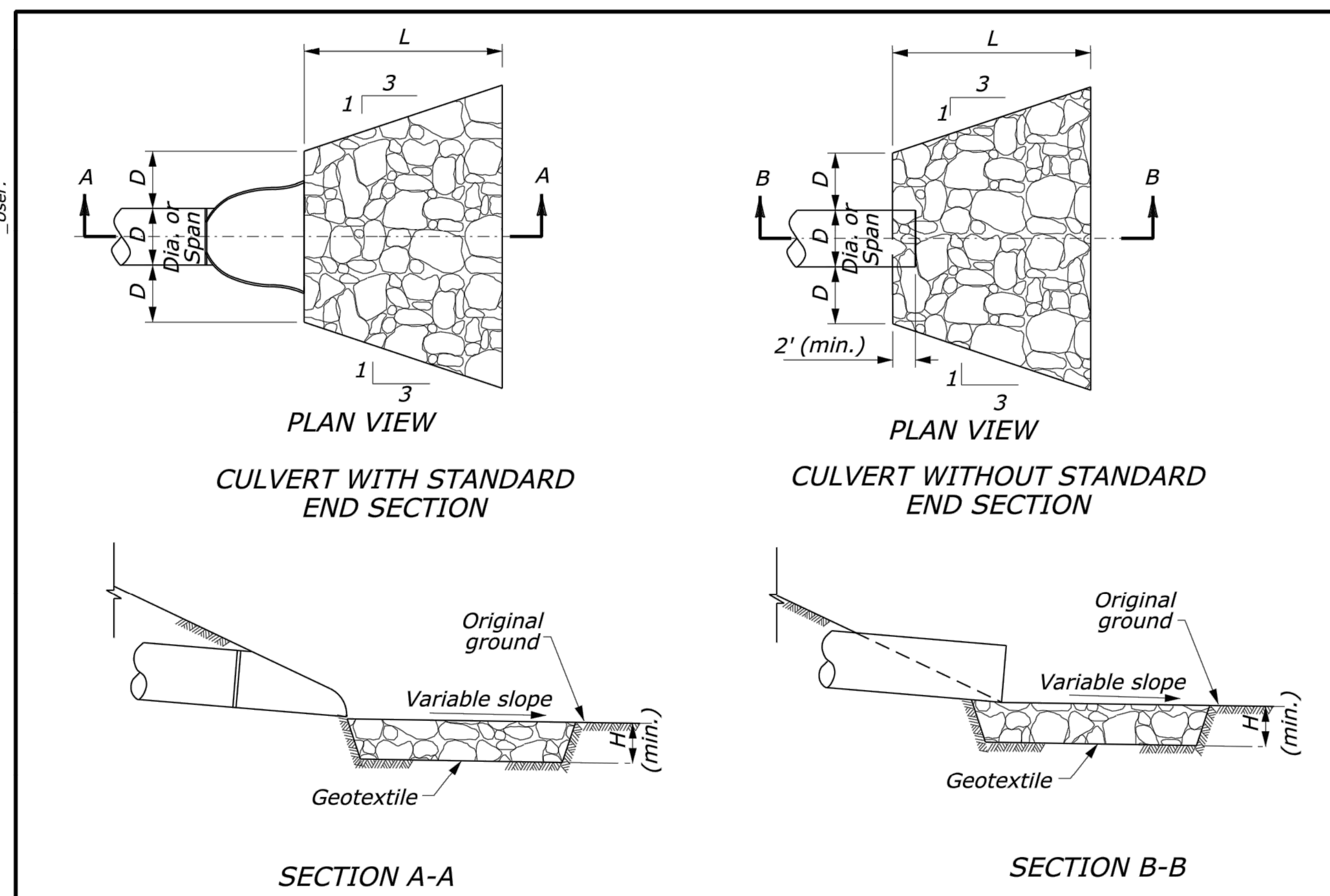
SMD(SLIP-1)-08

© TxDOT July 2002	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

26B

DATE:
FILE:

STATE	PROJECT	SHEET NUMBER

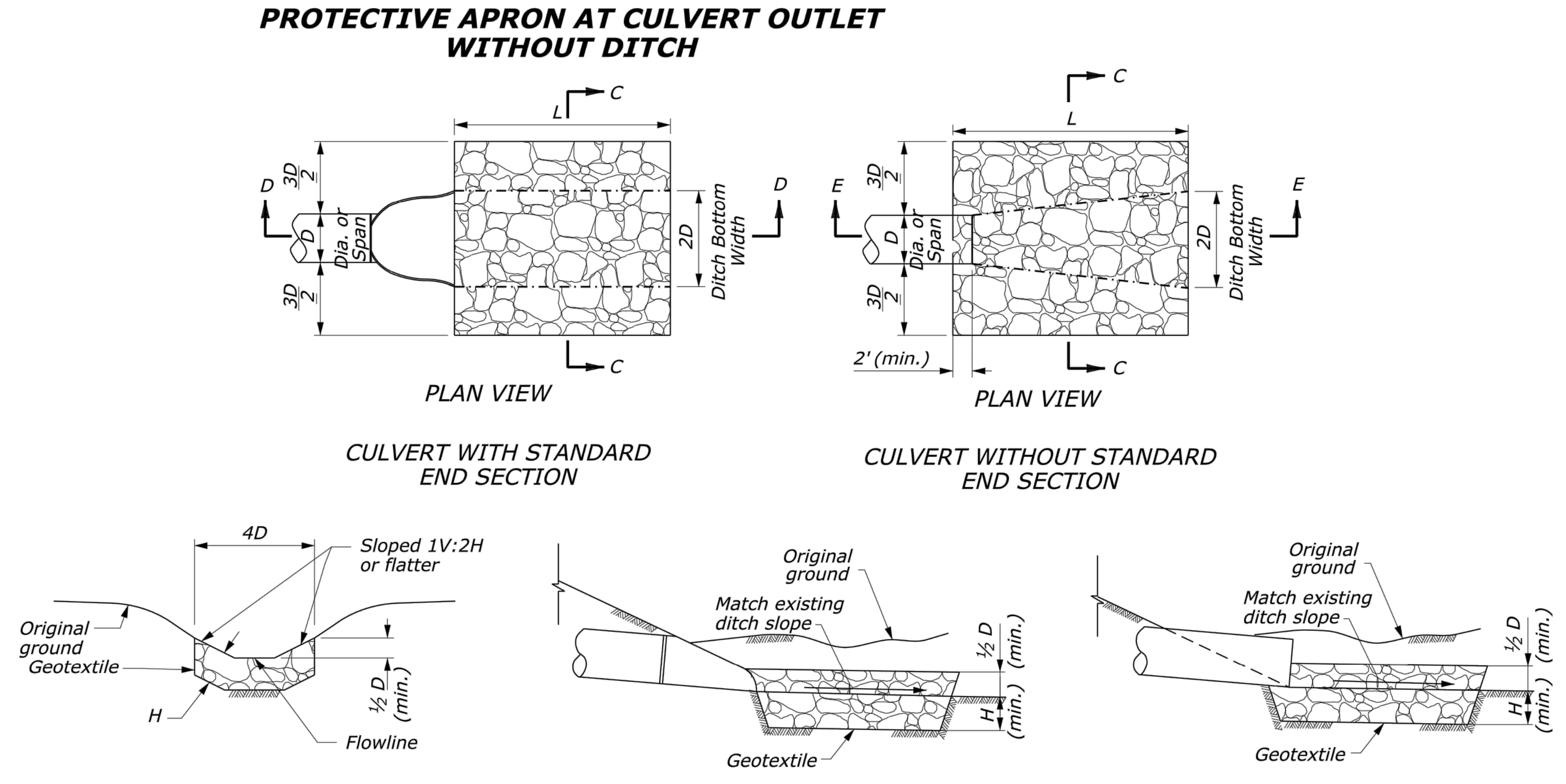


PROTECTIVE APRON AT CULVERT OUTLET WITHOUT DITCH

OUTLET WITHOUT DITCH PROTECTIVE APRON DIMENSIONS AND ESTIMATED QUANTITIES						
	CULVERT SIZE D (inches)	RIPRAP CLASS	LENGTH OF APRON L (feet)	DEPTH OF APRON H (feet)	ESTIMATED RIPRAP QUANTITY (CY)	ESTIMATED GEOTEXTILE QUANTITY (SY)
WITH END SECTION	12	2	4	1.5	1	5
	18	2	6	1.5	2.2	9
	24	2	8	1.5	3.9	14
	30	3	12.5	2	10.9	28
	36	3	16	2	15.6	37
	42	4	21	2.5	34.1	63
	48	4	24	2.5	44.5	79
WITHOUT END SECTION	12	2	6	1.5	1.7	8
	18	2	8	1.5	3.2	12
	24	2	10	1.5	5.2	17
	30	3	14.5	2	13.3	33
	36	3	17	2	18.5	43
	42	4	23	2.5	38.7	70
	48	4	26	2.5	49.8	87

NOTE:

1. *Use for aprons serving culverts with slopes of less than 10%.*
2. *Furnish geotextile conforming to Subsection 714.01(a).*
3. *Excavation for placement of riprap will not be measured for payment.*



PROTECTIVE APRON AT CULVERT OUTLET WITH DITCH

OUTLET WITH DITCH PROTECTIVE APRON DIMENSIONS AND ESTIMATED QUANTITIES						
	CULVERT SIZE D (inches)	RIPRAP CLASS	LENGTH OF APRON L (feet)	DEPTH OF APRON H (feet)	ESTIMATED RIPRAP QUANTITY (CY)	ESTIMATED GEOTEXTILE QUANTITY (SY)
WITH END SECTION	12	2	4	1.5	0.9	5
	18	2	6	1.5	2	8
	24	2	8	1.5	3.6	13
	30	3	12.5	2	9.3	24
	36	3	15	2	13.4	32
	42	4	21	2.5	27.3	53
	48	4	24	2.5	35.6	65
WITHOUT END SECTION	12	2	6	1.5	1.4	6
	18	2	8	1.5	2.7	10
	24	2	10	1.5	4.5	15
	30	3	14.5	2	10.8	27
	36	3	17	2	15.2	36
	42	4	23	2.5	29.9	57
	48	4	26	2.5	38.6	70

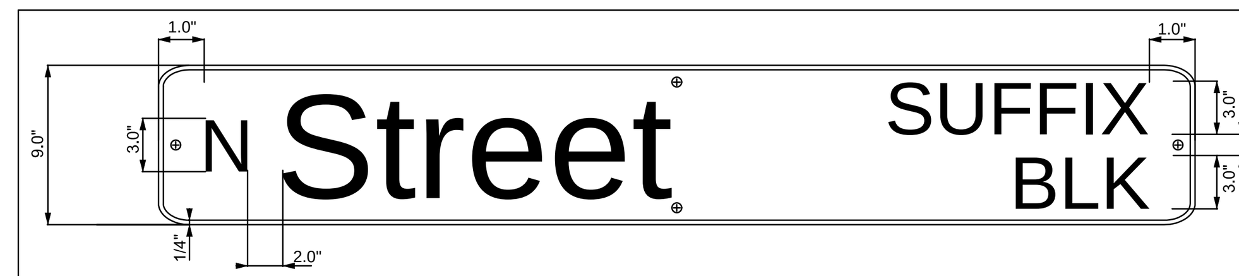
NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY DETAIL

PLACED RIPRAP AT CULVERT OUTLETS

DETAIL C251-50



GROUND MOUNTED STREET NAME SIGN

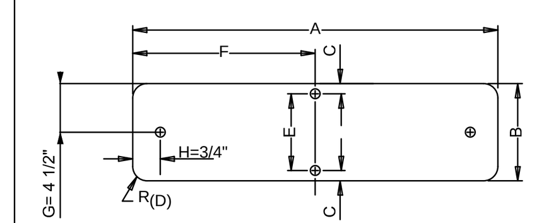
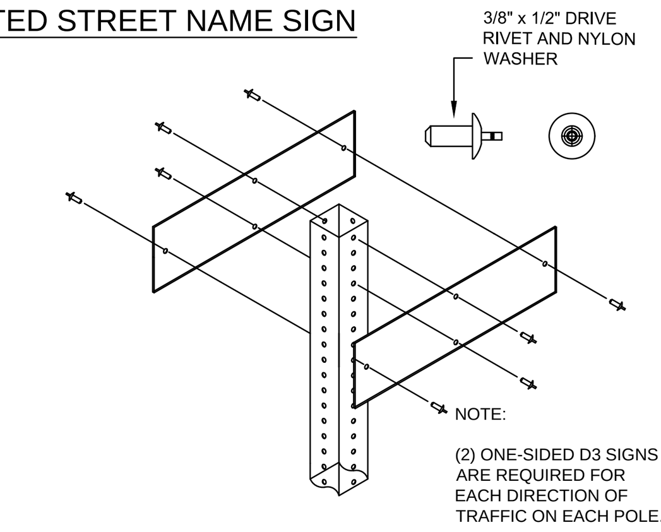


TABLE - D3 SIGNS

A	B	C	D	E	F	T
24"	9"	1/2"	3/4"	8"	12"	0.08"
30"	9"	1/2"	3/4"	8"	15"	0.08"
36"	9"	1/2"	3/4"	8"	18"	0.08"
42"	9"	1/2"	3/4"	8"	21"	0.08"
48"	9"	1/2"	3/4"	8"	24"	0.08"
54"	9"	1/2"	3/4"	8"	27"	0.08"



SIGN TO POLE INSTALLATION

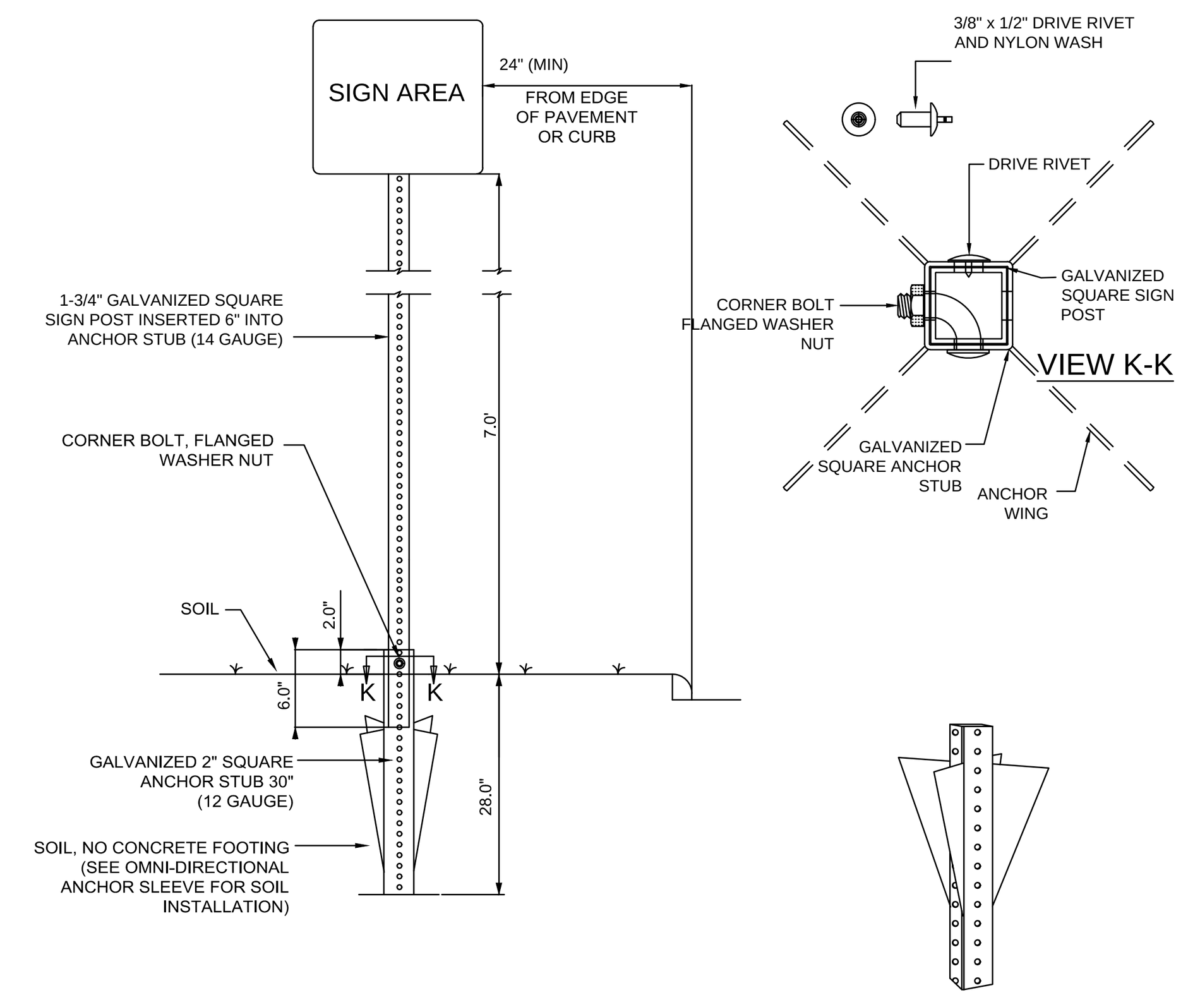
HEIGHT	9"
LENGTH	24" MIN. 54 MAX. 6" INCREMENTS OF LENGTH
THICKNESS	0.08"
SUBSTRATE	ALUMINUM ALLOY, 6061-T-6, OR TYPE IV 5052-H38 (ASTM B-209)
SIGN FACE MATERIALS	GREEN FILM OVER HIGH INTENSITY PRISMATIC SHEETING
LEGENDS AND SYMBOLS	SERIES D (USUAL) SERIES C OR B FOR MAXIMUM LENGTH SIGN BLANK, IF NECESSARY
COLOR	WHITE LEGEND ON GREEN BACKGROUND WITH ¼" WHITE BORDER

GROUND MOUNTED TRAFFIC AND STREET NAME SIGNS

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 824-2, 1 OF 3

TYPE "U" MOUNT
PERFORATED SQUARE METAL TUBING (DRIVEABLE)



MULTI-DIRECTIONAL ANCHOR

FOR USE IN SOIL

SIGN POST:
12 GAUGE
2" SQUARE x 30"

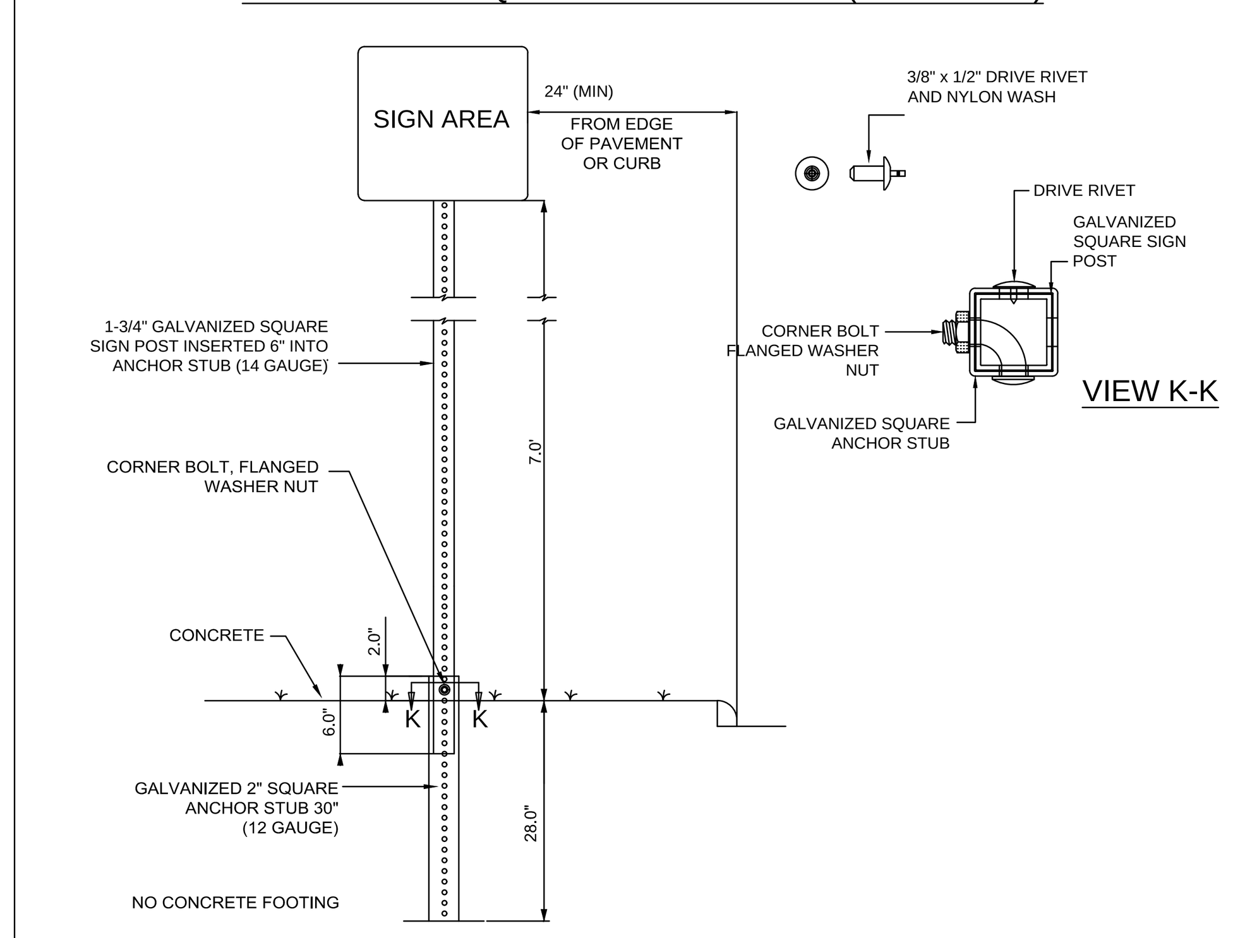
WINGS:
10 GAUGE
4" x 12"
ASTM A569 COM. QUALITY WELDED TO ALL 4 CORNERS STARTING 2 1/2" DOWN FROM TOP

GROUND MOUNTED TRAFFIC AND STREET NAME SIGNS - SOIL

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 824-2, 2 OF 3

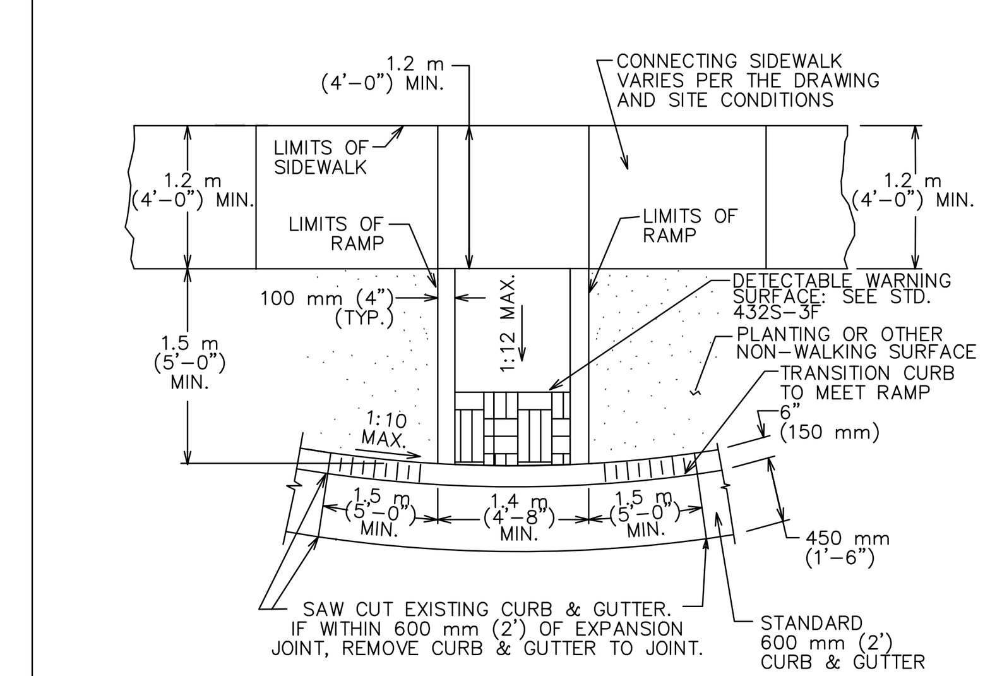
TYPE "U" MOUNT
PERFORATED SQUARE METAL TUBING (DRIVEABLE)



GROUND MOUNTED TRAFFIC AND STREET NAME SIGNS - CONCRETE

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 824-2, 3 OF 3



TYPE 1B SIDEWALK CURB RAMP

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 432S-5B

DESIGNED BY: QD	DRAFTED BY: CIP

DATE

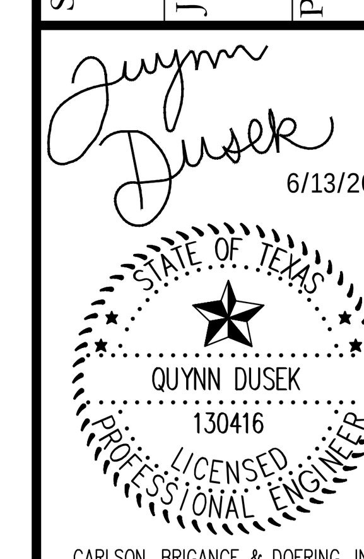
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr., Austin, Texas 78749, Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600, Austin, Texas 78750, www.cbdeng.com

SHEET NAME: STANDARD CONSTRUCTION DETAILS (3 OF 5)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS



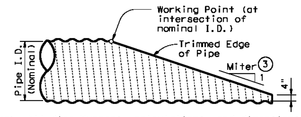
DATE: June 2023

JOB NUMBER: 5079

SHEET 118 OF 162

OCE-ENGINEERING.CTB

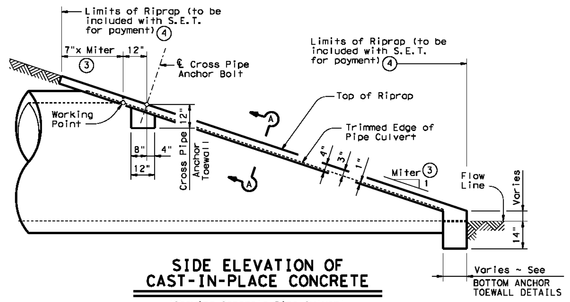
FILE PATH: J:\AC3D\5079\dwg\Construction Plans\5079-STANDARD DETAILS.dwg - Jun 14, 2023 - 9:58am



NOTE: All Pipe Runners, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

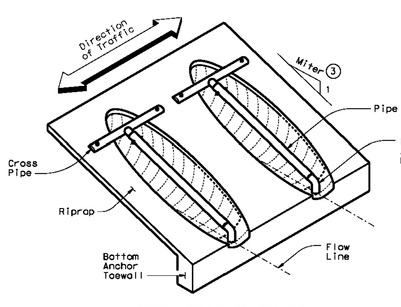
SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing Corrugated Metal Pipe Culvert. Details of Concrete Pipe Culvert are similar.)



SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing Concrete Pipe Culvert. Details of Corrugated Metal Pipe Culvert are similar. Pipe Runners not shown for clarity)



ISOMETRIC VIEW OF TYPICAL INSTALLATION

(Showing installation with no skew.)

CROSS PIPE LENGTHS & PIPE RUNNER LENGTHS (1)(2)

Nominal Culvert I.D.	Pipe Culvert Spa ~ G	Cross Pipe Length	Pipe Runner Length											
			3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
			0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
24"	1'- 7"	3'- 5"	N/A	N/A	N/A	5'-10"	N/A	N/A	N/A	8'- 1"	N/A	N/A	N/A	12'- 9"
27"	1'- 8"	3'- 8"	N/A	N/A	5'- 5"	6'-11"	N/A	N/A	7'- 7"	9'- 7"	N/A	N/A	11'-11"	14'-11"
30"	1'-10"	3'-11"	N/A	N/A	6'- 4"	8'- 0"	N/A	N/A	8'- 9"	11'- 0"	N/A	N/A	13'- 8"	17'- 0"
33"	1'-11"	4'- 2"	6'- 2"	6'- 5"	7'- 3"	9'- 1"	8'- 6"	8'-10"	10'- 0"	12'- 5"	13'- 3"	13'- 9"	15'- 5"	19'- 2"
36"	2'- 1"	4'- 5"	6'-11"	7'- 3"	8'- 2"	10'- 2"	9'- 6"	9'-11"	11'- 2"	13'-10"	14'- 9"	15'- 3"	17'- 2"	21'- 3"
42"	2'- 4"	4'-11"	8'- 6"	8'-10"	9'-11"	12'- 4"	11'- 7"	12'- 0"	13'- 6"	16'- 8"	17'- 9"	18'- 5"	20'- 8"	25'- 7"
48"	2'- 7"	5'- 5"	10'- 1"	10'- 5"	11'- 9"	N/A	13'- 7"	14'- 2"	15'-10"	N/A	20'- 9"	21'- 6"	24'- 2"	N/A
54"	3'- 0"	5'-11"	11'- 8"	12'- 1"	N/A	N/A	15'- 8"	16'- 3"	N/A	N/A	23'-10"	24'- 8"	N/A	N/A
60"	3'- 3"	6'- 5"	13'- 3"	N/A	N/A	N/A	17'- 9"	N/A	N/A	N/A	26'-10"	N/A	N/A	N/A

TYPICAL PIPE CULVERT MITERS (3)

Side Slope	0° Skew	15° Skew	30° Skew	45° Skew
3:1	3:1	3.106:1	3.464:1	4.243:1
4:1	4:1	4.141:1	4.619:1	5.657:1
6:1	6:1	6.212:1	6.928:1	8.485:1

CONDITIONS WHERE PIPE RUNNERS (2) ARE NOT REQUIRED

Nominal Culvert I.D.	Single Pipe Culvert	Multiple Pipe Culverts
12" thru 21"	Skews thru 45°	Skews thru 45°
24"	Skews thru 45°	Skews thru 30°
27"	Skews thru 30°	Skews thru 15°
30"	Skews thru 15°	Skews thru 15°
33"	Skews thru 15°	Always required
36"	Normal (No Skew)	Always required
42" to 60"	Always required	Always required

STANDARD PIPE SIZES & MAX PIPE RUNNER LENGTHS (1)

Pipe Size	Pipe O.D.	Pipe I.D.	Max Pipe Runner Length
2" STD	2.375"	2.067"	N/A
3" STD	3.500"	3.068"	10'- 0"
4" STD	4.500"	4.026"	19'- 8"
5" STD	5.563"	5.047"	34'- 2"

ESTIMATED CONCRETE RIPRAP QUANTITIES (CY) (5)

Nominal Culvert I.D.	3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
12"	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.8
15"	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9
18"	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	1.0
21"	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9	0.9	0.9	1.0	1.2
24"	0.6	0.7	0.7	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.1	1.3
27"	0.7	0.7	0.8	0.9	0.8	0.9	0.9	1.1	1.1	1.1	1.2	1.4
30"	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.2	1.2	1.2	1.3	1.6
33"	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.3	1.3	1.4	1.5	1.7
36"	0.9	0.9	0.9	1.1	1.1	1.1	1.2	1.4	1.4	1.5	1.6	1.8
42"	1.0	1.0	1.1	1.3	1.2	1.3	1.3	1.6	1.6	1.7	1.8	2.1
48"	1.1	1.1	1.2	N/A	1.4	1.4	1.5	N/A	1.9	1.9	2.1	N/A
54"	1.3	1.3	N/A	N/A	1.6	1.6	N/A	N/A	2.1	2.1	N/A	N/A
60"	1.4	N/A	N/A	N/A	1.7	N/A	N/A	N/A	2.3	N/A	N/A	N/A

(1) Size of Pipe Runner shall be as shown in the tables. Cross Pipe shall be the same size as the Pipe Runner. Cross Pipe Stub Out and Bottom Anchor Pipe shall be the next smaller size pipe as shown in the STANDARD PIPE SIZES table.

(2) This standard allows for the placement of only one pipe runner across each culvert pipe opening. In order to limit the clear opening to be traversed by an errant vehicle, the following conditions must be met:

For 60" culvert pipes, the skew must not exceed 0°.
For 54" culvert pipes, the skew must not exceed 15°.
For 48" culvert pipes, the skew must not exceed 30°.
For all culvert pipe sizes 42" and less, the skew must not exceed 45°.

If the above conditions cannot be met, the designer should consider using a safety end treatment with flared wings. For further information, refer to the TxDOT "Roadway Design Manual".

(3) Miter = Slope of Mitered Pipe Culvert End

(4) Riprap placed beyond the limits shown will be paid as Concrete Riprap in accordance with Item 432, "Riprap".

(5) Quantities shown are for one end of one reinforced Concrete Pipe Culvert. For multiple Pipe Culverts or for Corrugated Metal Pipe Culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT

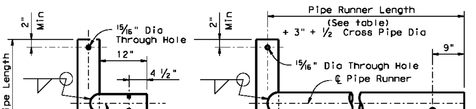
FOR 12" DIA TO 60" DIA PIPE CULVERTS
TYPE II ~ CROSS DRAINAGE

SETP-CD

FILE:	setpcdsa.dgn	DN: GAF	CK: CAT	DW: JRP	CK: SAF
©TxDOT	February 2010	CONT	SECT	JOB	HIGHWAY
	REVISIONS				
11-20: Add note for synthetic fibers.		DIST	COUNTY		SHEET NO.

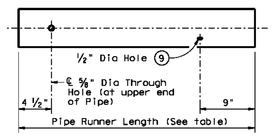
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE:
FILE:



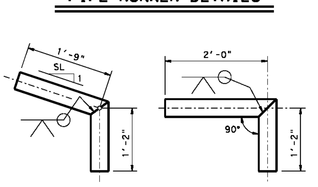
OPTION A1 OPTION A2

CROSS PIPE AND CONNECTIONS DETAILS



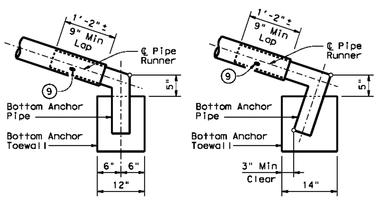
NOTE: The separate Pipe Runner shown is required when Cross Pipe Connection Option A1 is used.

PIPE RUNNER DETAILS



OPTION B1 OPTION B2

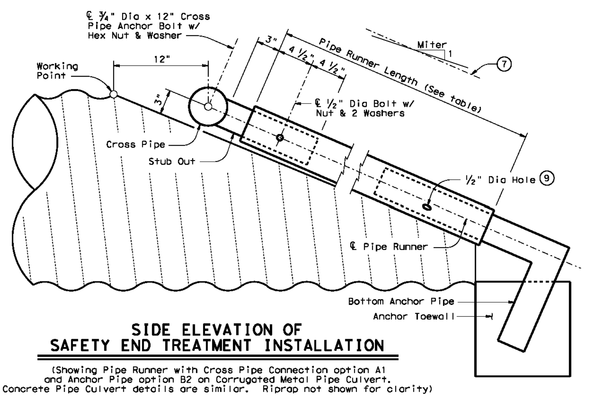
BOTTOM ANCHOR PIPE DETAILS (10)



OPTION B1 OPTION B2

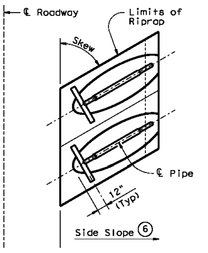
BOTTOM ANCHOR TOEWALL DETAILS

(Culvert & Riprap not shown for clarity)

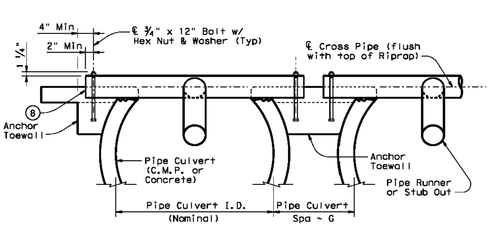


SIDE ELEVATION OF SAFETY END TREATMENT INSTALLATION

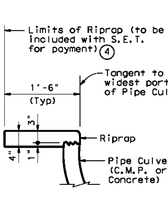
(Showing Pipe Runner with Cross Pipe Connection option A1 and Anchor Pipe option B2 on Corrugated Metal Pipe Culvert. Concrete Pipe Culvert details are similar. Riprap not shown for clarity)



PLAN OF SKEWED INSTALLATION



SHOWING CROSS PIPE & ANCHOR TOEWALL



SHOWING TYPICAL PIPE CULVERT & RIPRAP

SECTION A-A

(4) Riprap placed beyond the limits shown will be paid as Concrete Riprap in accordance with Item 432, "Riprap".

(6) Recommended values of side slope are 3:1, 4:1, & 6:1. All quantities, calculations, and dimensions shown herein are based on these recommended values. Slope of 3:1 or flatter is required for vehicle safety.

(7) Note that actual slope of Pipe Runner may vary slightly from Side Slope of Riprap and trimmed Culvert Pipe edge.

(8) Care shall be taken to ensure that Riprap concrete does not flow into the Cross Pipe so as to permit disassembly of the bolted connection to allow cleanout access.

(9) After installation, the 1/2" hole shall be inspected to ensure that the lap of the Pipe Runner with the Bottom Anchor Pipe is adequate.

(10) At fabricator's option, a heat bend to a smooth 5" radius or a manufactured elbow (of the same material as the Runner) may be substituted for the mitered and welded joint in the Bottom Anchor Pipe.

GENERAL NOTES:

Pipe Runners are designed for a traversing load of 1,800 pounds at yield as recommended by Research Report 280-1, "Safety Treatment of Roadside Cross-Drainage Structures", Texas Transportation Institute, March 1981.

The Safety End Treatments shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the Pipe Runners.

Riprap and all necessary inverts shall be Concrete Riprap conforming to the requirements of Item 432, "Riprap".

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Payment for riprap and toewall is included in the Price Bid for each Safety End Treatment.

Pipe Runners, Cross Pipes, and Anchor Pipes shall conform to the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52.

Bolts and nuts shall conform to ASTM A307.

All steel components, except concrete reinforcing, shall be galvanized after fabrication. Galvanizing damaged during transport or construction shall be repaired in accordance with the specifications.

SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT

FOR 12" DIA TO 60" DIA PIPE CULVERTS
TYPE II ~ CROSS DRAINAGE

SETP-CD

FILE:	setpcdsa.dgn	DN: GAF	CK: CAT	DW: JRP	CK: SAF
©TxDOT	February 2010	CONT	SECT	JOB	HIGHWAY
	REVISIONS				
11-20: Add note for synthetic fibers.		DIST	COUNTY		SHEET NO.

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DATE:
FILE:

SHEET NAME: STANDARD CONSTRUCTION DETAILS (4 OF 5)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

SHEET 119 OF 162

JOB NUMBER 5079

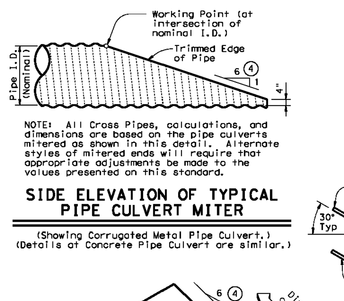
DATE: June 2023

GARSON BRIGANCE DOERING, INC. — QUINN DUDEK — 130916 — LICENSED PROFESSIONAL ENGINEER — STATE OF TEXAS — 6/13/2023

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office
5501 West William Cannon Dr.
Austin, Texas 78749
Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdeng.com

REVISION	DATE

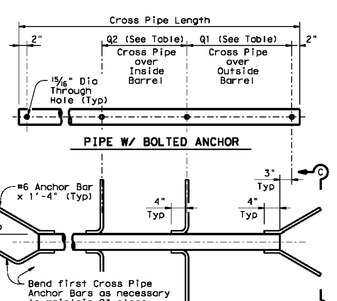
DESIGNED QD
DRAWN CD
CHECKED



NOTE: All Cross Pipes, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

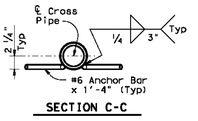
SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing Corrugated Metal Pipe Culvert.)
(Details at Concrete Pipe Culvert are similar.)



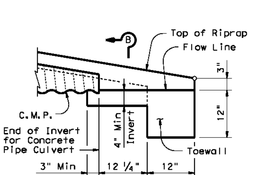
PIPE W/ BOLTED ANCHOR

PIPE W/ ANCHOR BARS



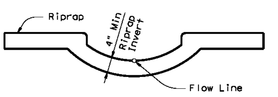
SECTION C-C

CROSS PIPE DETAILS



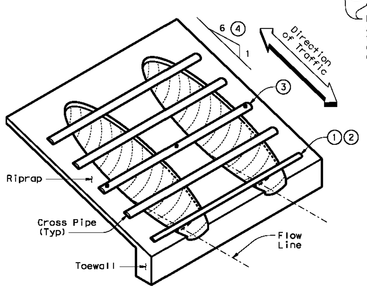
DETAIL "A"

(Showing Invert with Corrugated Metal Pipe Culvert. Concrete Pipe Culvert details are similar. Cross Pipes not shown for clarity.)



SECTION B-B

(Cross Pipes not shown for clarity.)



ISOMETRIC VIEW OF TYPICAL INSTALLATION

CROSS PIPE LENGTHS, REQUIRED PIPE SIZES, & RIPRAP QUANTITIES (2)

Nominal Culvert I.D.	Conc Riprap (CY) (6)	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi-Barrel ~ Q1	Q2	Conditions for use of Cross Pipes	Cross Pipe Size
12"	0.6	9"	N/A	2'- 1"	1'- 9"	3 or more Pipe Culverts	3" Std (3.500" O.D.)
15"	0.7	11"	N/A	2'- 5"	2'- 2"		
18"	0.8	1'- 2"	N/A	2'-10"	2'- 8"		
21"	0.9	1'- 4"	N/A	3'- 2"	3'- 1"		
24"	0.9	1'- 7"	N/A	3'- 6"	3'- 7"		
27"	1.0	1'- 8"	N/A	3'-10"	3'-11"	3 or more Pipe Culverts	3 1/2" Std (4.000" O.D.)
30"	1.1	1'-10"	N/A	4'- 2"	4'- 4"	2 or more Pipe Culverts	
33"	1.2	1'-11"	4'- 2"	4'- 5"	4'- 8"	All Pipe Culverts	4" Std (4.500" O.D.)
36"	1.3	2'- 1"	4'- 5"	4'- 9"	5'- 1"	All Pipe Culverts	
42"	1.5	2'- 4"	4'-11"	5'- 5"	5'-10"		
48"	1.7	2'- 7"	5'- 5"	6'- 0"	6'- 7"	All Pipe Culverts	5" Std (5.563" O.D.)
54"	2.0	3'- 0"	5'-11"	6'- 9"	7'- 6"		
60"	2.2	3'- 3"	6'- 5"	7'- 4"	8'- 3"		
66"	2.4	3'- 3"	6'-11"	7'-10"	8'- 9"		
72"	2.7	3'- 4"	7'- 5"	8'- 5"	9'- 4"		

(1) The proper installation of the first Cross Pipe is critical for vehicle safety. The top of the first Cross Pipe must be placed at no more than 6" above the flow line.

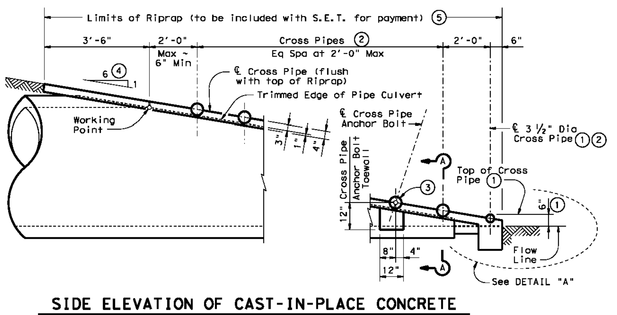
(2) Size of Cross Pipes, except the first bottom pipe, shall be as shown in the PIPE SIZE table. The first bottom pipe shall be 3 1/2" Standard Pipe (4" O.D.).

(3) The third Cross Pipe from the bottom of the Culvert shall always be installed using a bolted connection. Care shall be taken to ensure that Riprap concrete does not flow into the Cross Pipe so as to permit disassembly of the bolted connection to allow cleanout access. At the Contractor's option, all other Cross Pipes may also be installed using the bolted connection details.

(4) Match Cross Slope as shown elsewhere in the plans. Cross Slope of 6:1 or flatter is required for vehicle safety.

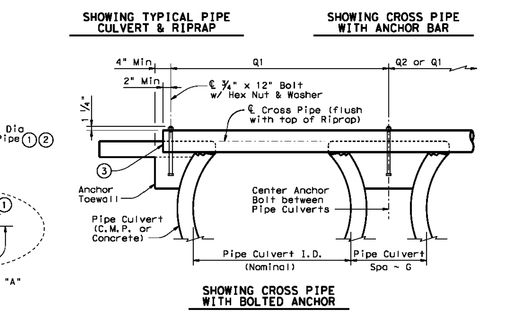
(5) Riprap placed beyond the limits shown will be paid as Concrete Riprap in accordance with Item 432, "Riprap".

(6) Quantities shown are for one end of one reinforced Concrete Pipe Culvert. For multiple pipe culverts or for Corrugated Metal Pipe Culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.



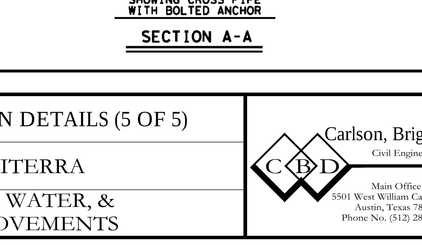
SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing Concrete Pipe Culvert.)
(Details at Corrugated Metal Pipe Culvert are similar.)



SHOWING TYPICAL PIPE CULVERT & RIPRAP

SHOWING CROSS PIPE WITH ANCHOR BAR



SHOWING CROSS PIPE WITH BOLTED ANCHOR

SECTION A-A

GENERAL NOTES:

Cross Pipes are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.

Safety End Treatments shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the Cross Pipes.

Riprap and all necessary inverts shall be Concrete Riprap conforming to the requirements of Item 432, "Riprap".

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Payment for riprap and toewall is included in the Price Bid for each Safety End Treatment.

Cross Pipes shall conform to the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52.

Bolts and nuts shall conform to ASTM A307.

All steel components, except concrete reinforcing, shall be galvanized after fabrication. Galvanizing damaged during transport or construction shall be repaired in accordance with the specifications.

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT

FOR 12" DIA TO 72" DIA PIPE CULVERTS TYPE II ~ PARALLEL DRAINAGE

SETP-PD

FILE:	setppdse.dgn	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT	February 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS					
11-20: Add note for synthetic fibers.		DIST	COUNTY		SHEET NO.

DATE:
FILE:

SHEET 120 OF 162

JOB NUMBER 5079

DATE: June 2023

SHEET NAME: STANDARD CONSTRUCTION DETAILS (5 OF 5)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Carlson, Brigance & Doering, Inc.
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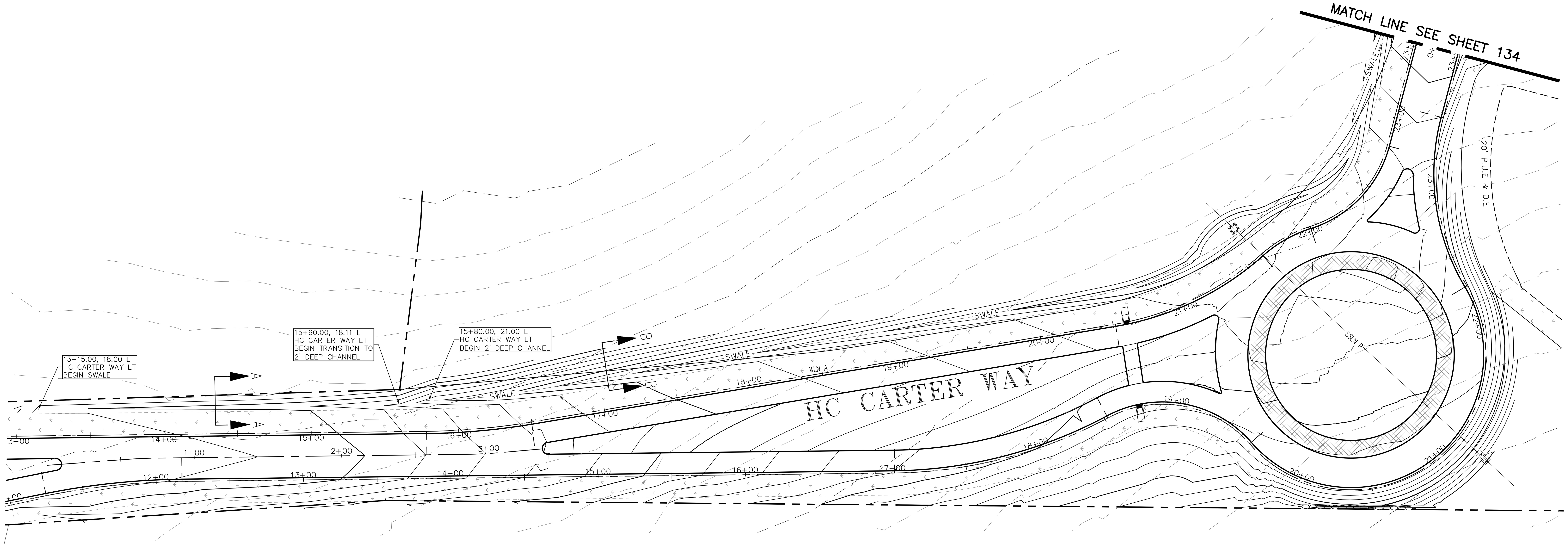
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdeng.com

REVISION	DATE

DESIGNED: GAF
DRAWN: CAT
CHECKED: GAF

SUB-STREET.CTB



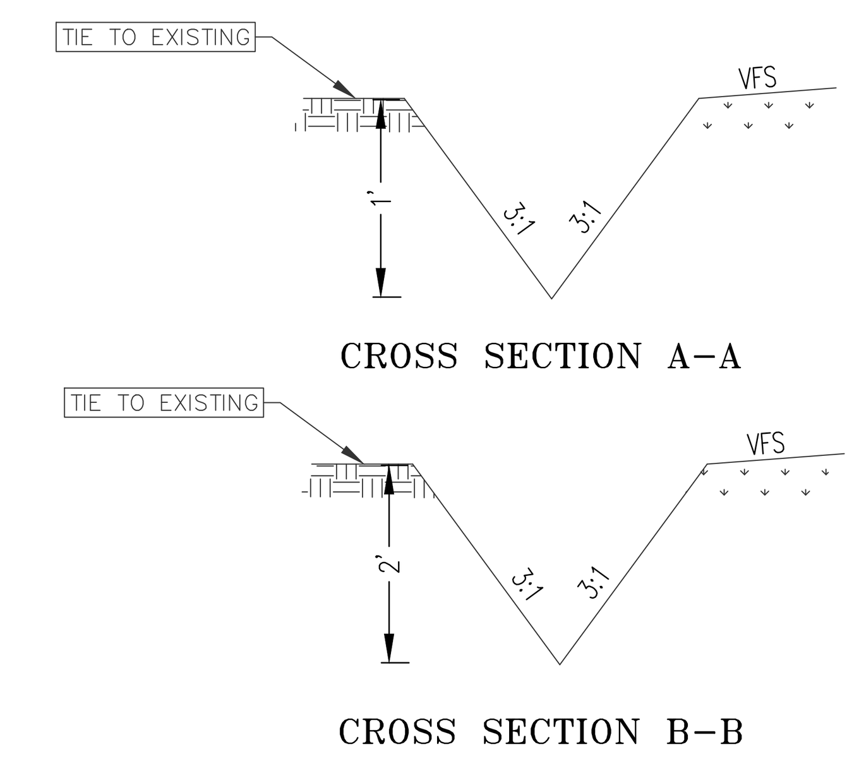
LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

0 40' 80'

SCALE: 1" = 40'

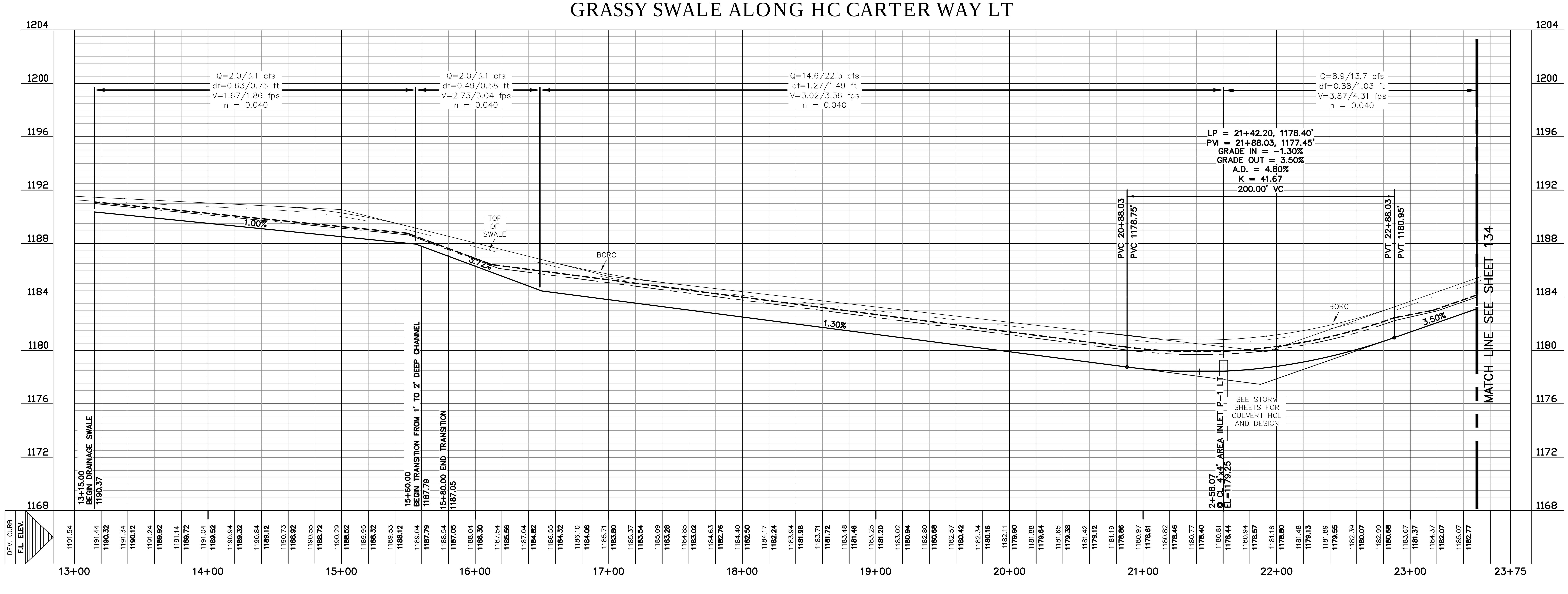
NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS



PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE

GRASSY SWALE ALONG HC CARTER WAY LT



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DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

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SHEET NAME: GRASSY SWALE ALONG HC CARTER WAY 15+00-25+41

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

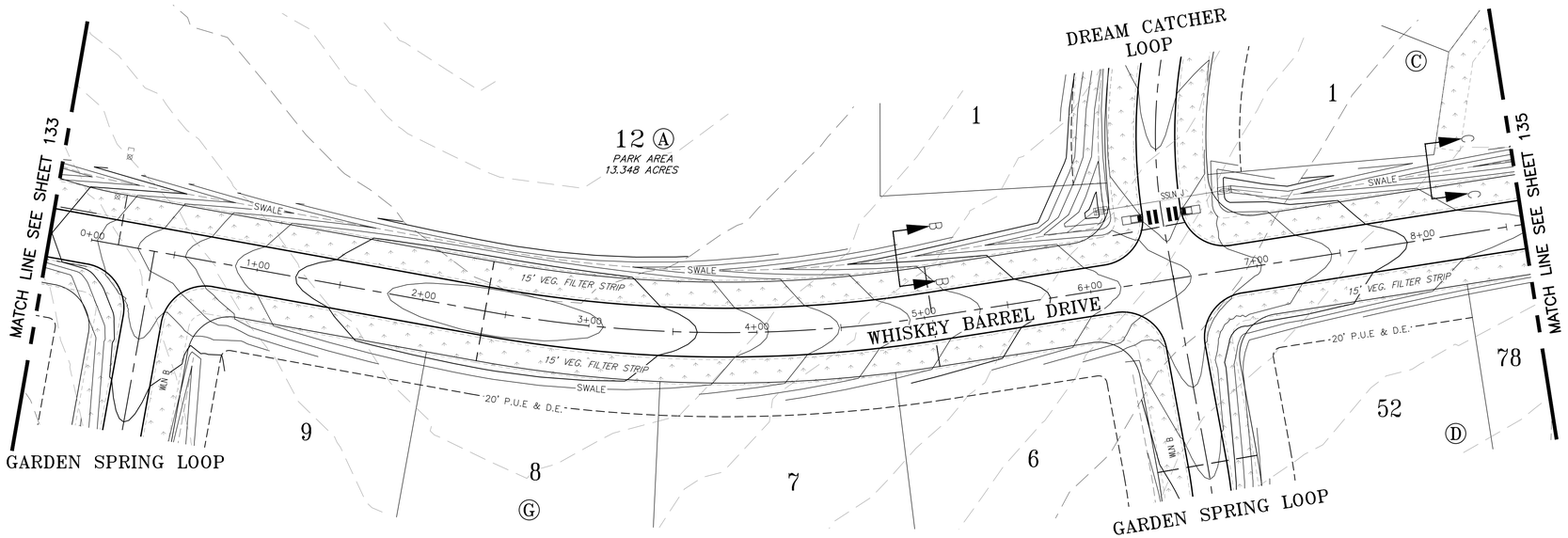
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

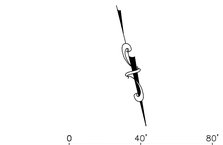
DATE
June 2023

JOB NUMBER
5079

SHEET
133 OF 162

SUB-STREET.CTB



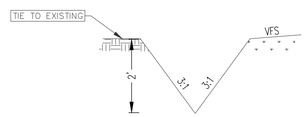


SCALE: 1" = 40'

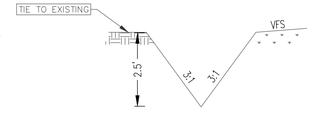
LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS



CROSS SECTION B–B

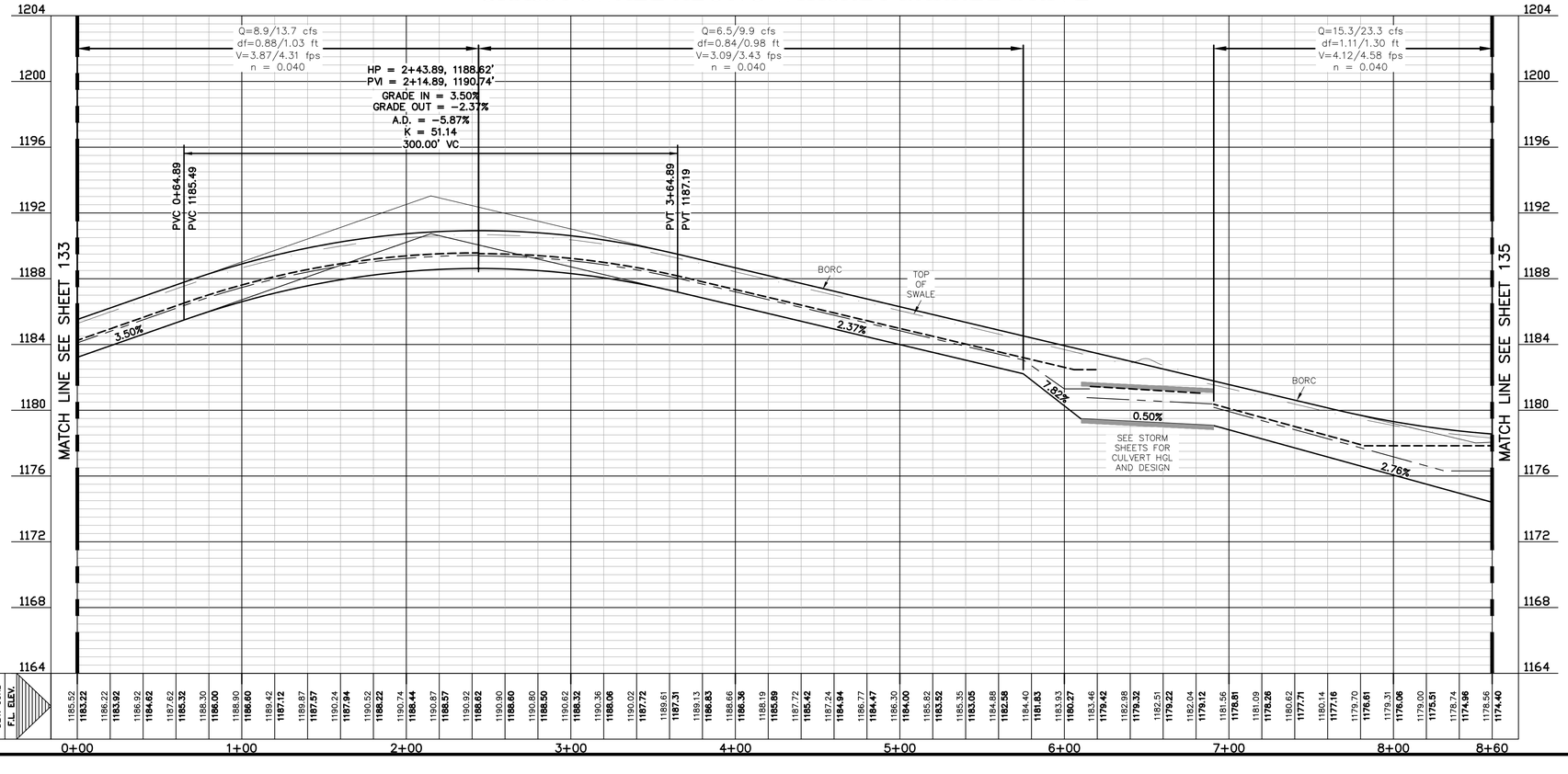


CROSS SECTION C–C

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE

GRASSY SWALE ALONG WHISKEY BARREL DRIVE



DEV. CURB F.L. ELEV.	0+00	0+50	1+00	1+50	2+00	2+50	3+00	3+50	4+00	4+50	5+00	5+50	6+00	6+50	7+00	7+50	8+00	8+50	8+60
	1185.52	1186.22	1186.92	1187.62	1188.30	1188.90	1189.42	1189.87	1190.24	1190.52	1190.74	1190.87	1190.92	1190.90	1190.80	1190.62	1190.36	1190.02	1189.61
	1183.22	1183.92	1184.62	1185.32	1186.00	1186.60	1187.12	1187.57	1187.94	1188.22	1188.44	1188.57	1188.62	1188.60	1188.50	1188.32	1188.06	1187.72	1187.31
	1189.13	1188.83	1188.66	1188.52	1188.42	1188.36	1188.36	1188.19	1187.99	1187.72	1187.42	1185.89	1185.42	1184.94	1184.47	1186.30	1184.00	1185.82	1183.52
	1185.35	1183.05	1184.88	1182.58	1184.40	1181.83	1183.93	1180.27	1183.46	1179.42	1182.98	1179.32	1182.51	1179.22	1182.04	1179.12	1181.56	1178.81	1181.09
	1178.26	1180.62	1177.71	1180.14	1177.16	1179.70	1176.61	1179.31	1176.06	1179.00	1175.51	1178.74	1174.96	1178.56	1174.40				

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Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdengr.com

DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

SHEET NAME: GRASSY SWALE ALONG WHISKEY BARREL DRIVE 0+00-8+60
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE
June 2023
JOB NUMBER
5079
SHEET
134 OF 162

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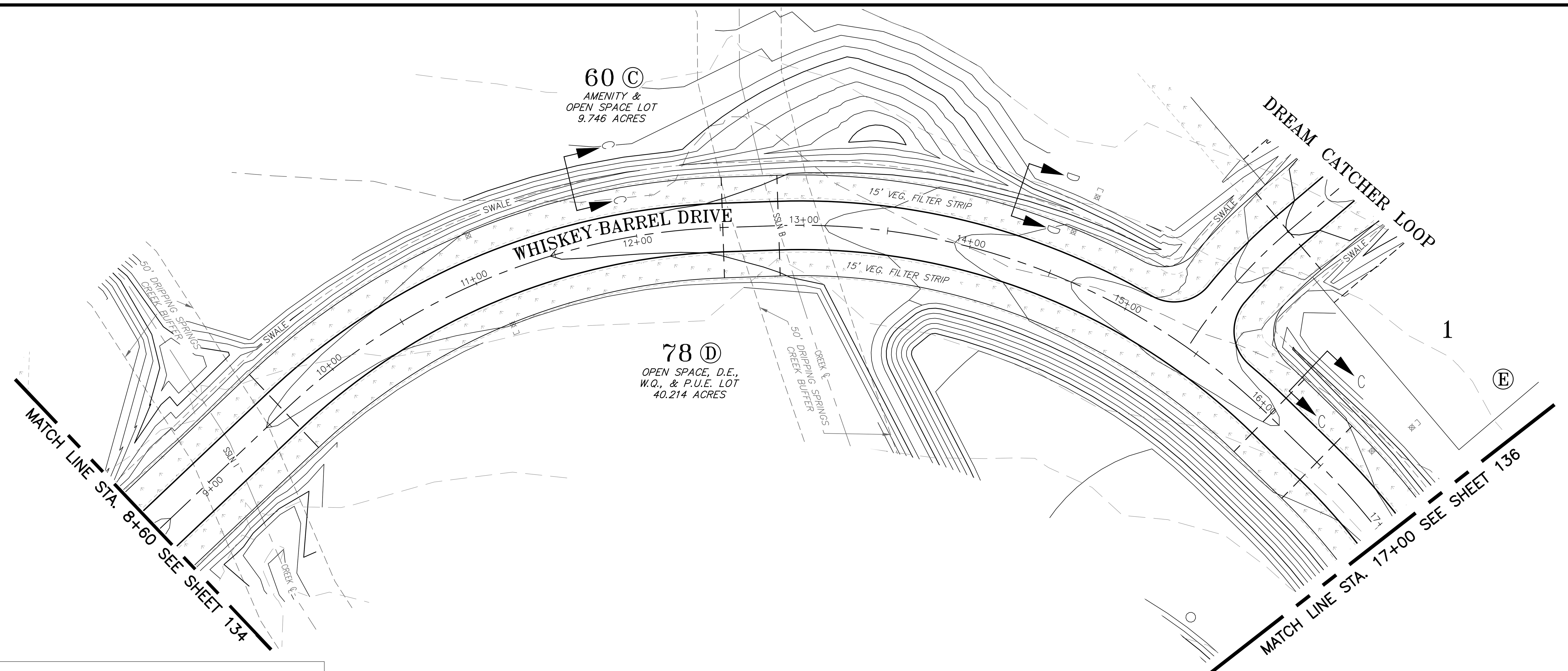
SUB-STREET.CTB

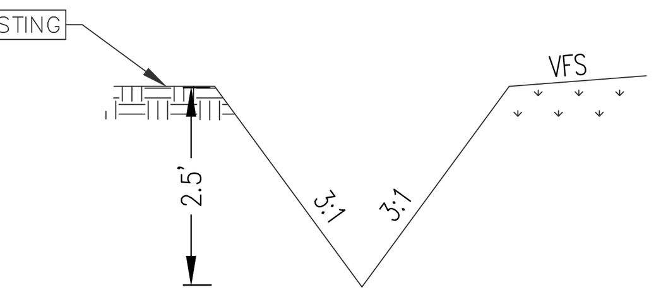


LEGEND

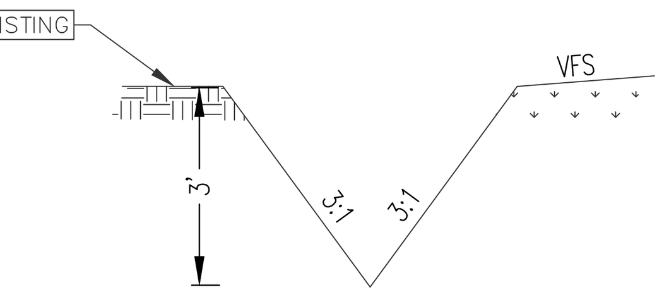
1160 (solid)	PROPOSED CONTOUR MAJOR
1158 (solid)	PROPOSED CONTOUR MINOR
-1160- (dashed)	EXISTING CONTOUR MAJOR
-1158- (dashed)	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

SCALE: 1" = 40'

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS



CROSS SECTION C–C

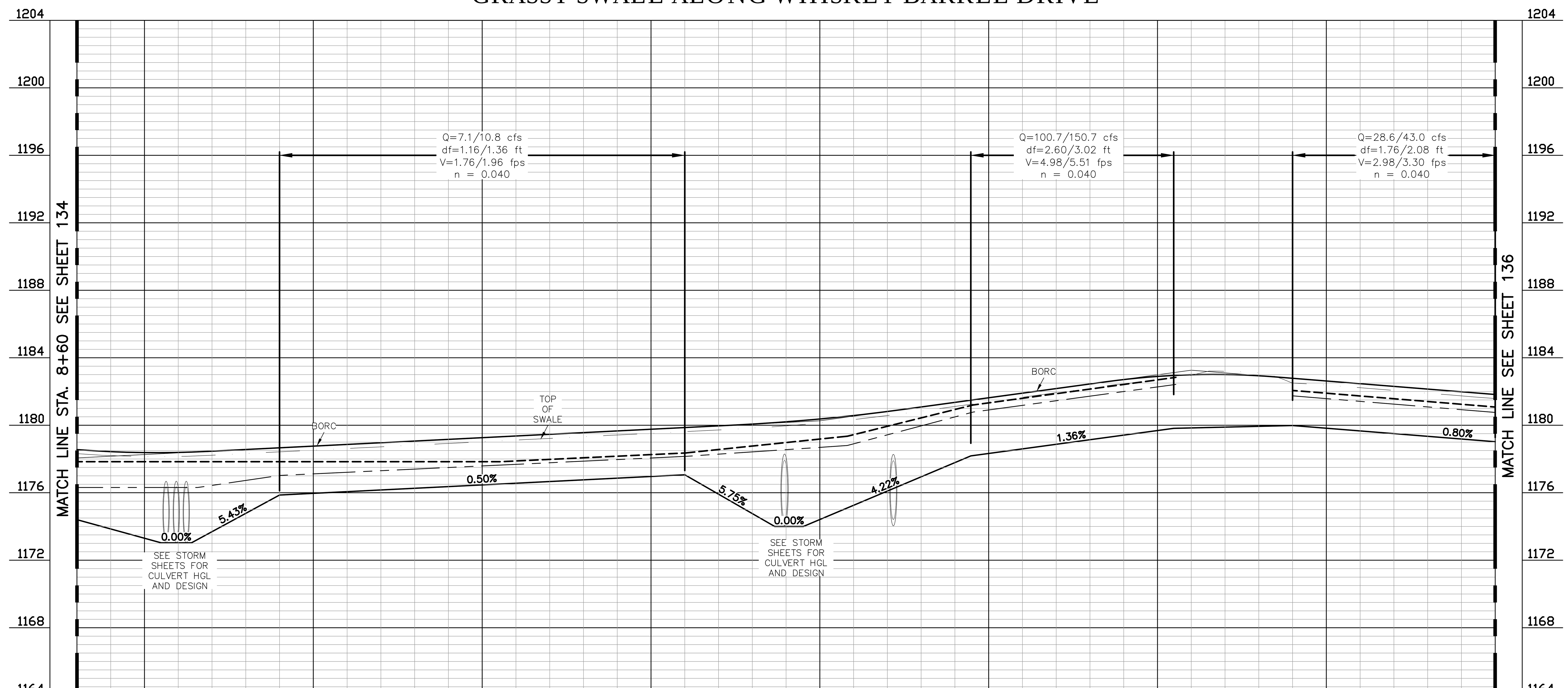


CROSS SECTION D–D

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE

GRASSY SWALE ALONG WHISKEY BARREL DRIVE



STATION	DEV. CURB	F.L. ELEV.
8+60	1178.56	1174.40
	1178.44	1173.85
9+00	1178.38	1173.30
	1178.39	1173.03
	1178.46	1173.69
	1178.56	1174.78
	1178.66	1175.86
10+00	1178.76	1175.96
	1178.86	1176.06
	1178.96	1176.16
	1179.06	1176.26
	1179.16	1176.36
11+00	1179.26	1176.46
	1179.36	1176.56
	1179.46	1176.66
	1179.56	1176.76
	1179.66	1176.86
12+00	1179.76	1176.96
	1179.86	1177.06
	1179.96	1175.91
	1180.07	1174.76
	1180.20	1174.00
13+00	1180.37	1174.41
	1180.58	1175.26
	1180.81	1176.10
	1181.08	1176.94
	1181.36	1177.79
14+00	1181.63	1178.33
	1181.90	1178.60
	1182.17	1178.87
	1182.45	1179.14
	1182.71	1179.41
15+00	1182.89	1179.69
	1182.99	1179.84
	1183.01	1179.89
	1182.93	1179.94
	1182.78	1179.98
16+00	1182.62	1179.82
	1182.46	1179.66
	1182.30	1179.50
	1182.14	1179.34
	1181.98	1179.18
17+00	1181.82	1179.02

FILE PATH:J:\AC3D\5079\dwg\Construction Plans\5079-DITCH PLAN.dwg - Jun 14, 2023 - 10:14am

DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

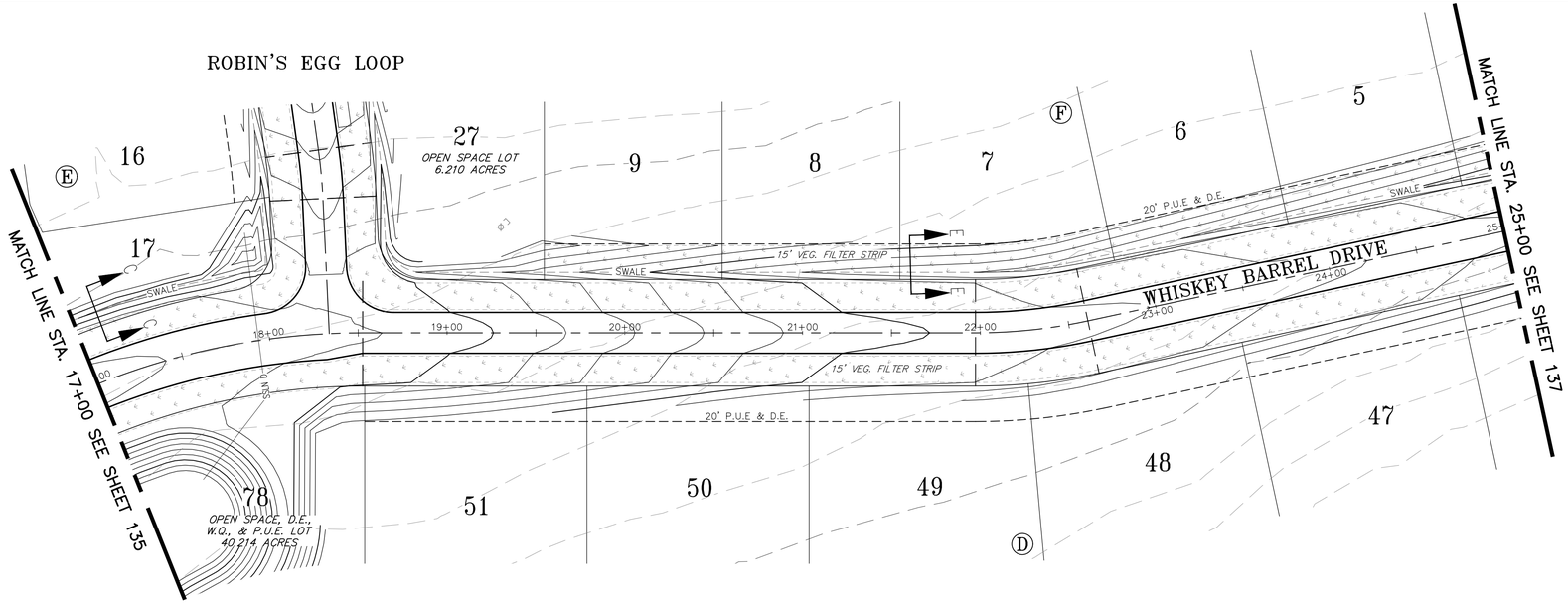
Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr., Austin, Texas 78749, Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600, Austin, Texas 78750, www.cbdeng.com

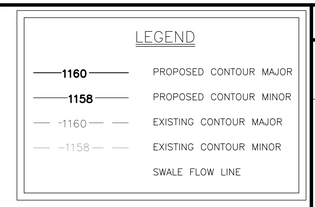
SHEET NAME: GRASSY SWALE ALONG WHISKEY BARREL DRIVE 8+60-17+00
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

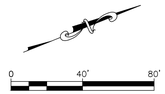
Quynn Dusek 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC. ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET 135 OF 162

SUB:STREET.CTB

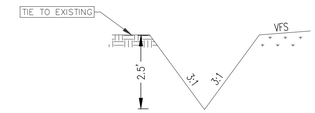




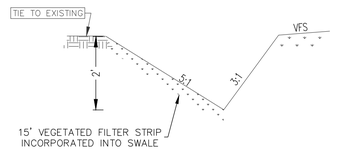


SCALE: 1" = 40'

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS



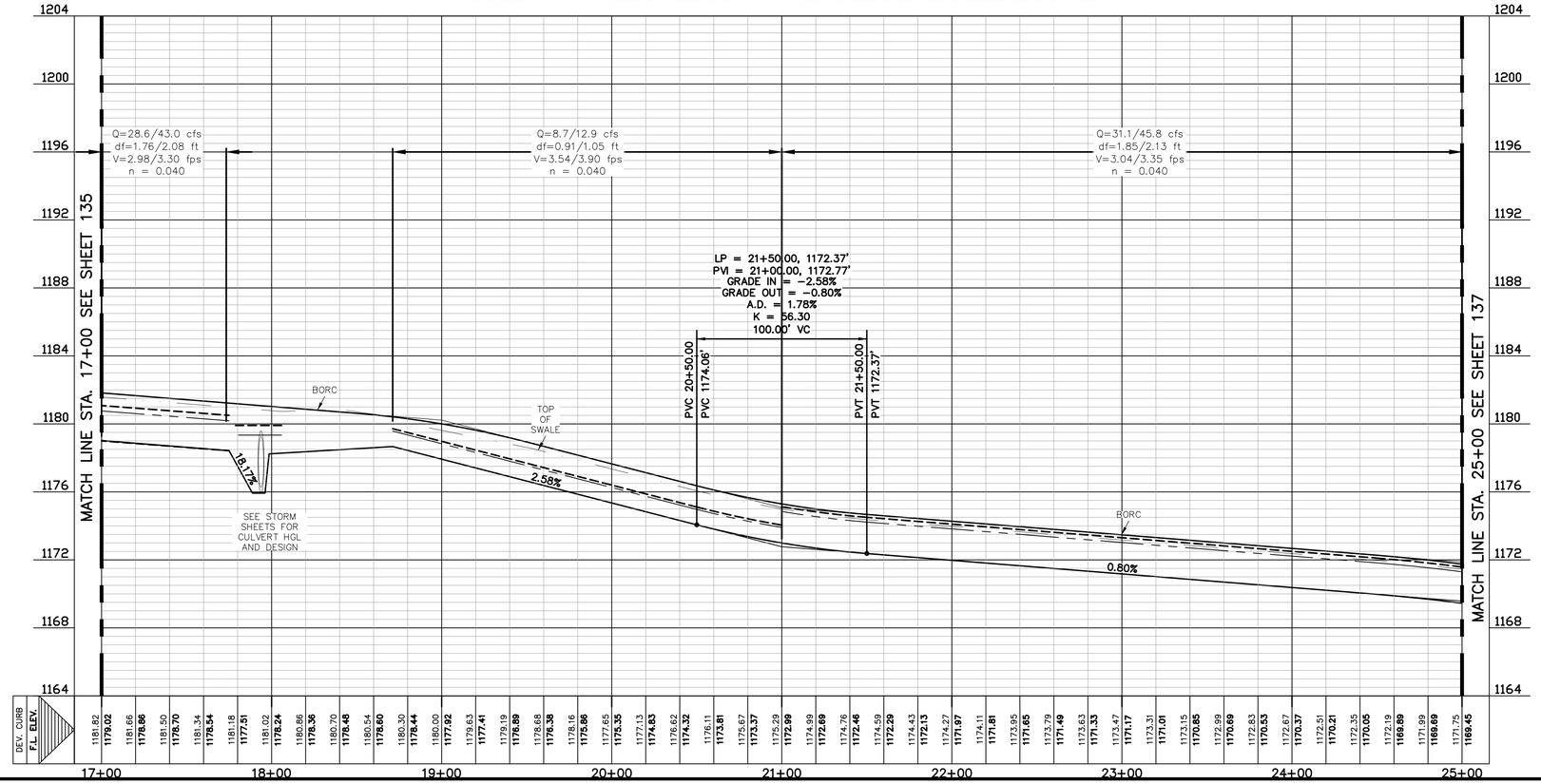
CROSS SECTION C-C



CROSS SECTION E-E

PROFILE SCALE	PROPOSED BACK OF RIBBON CURB	TOP OF SWALE
HORIZ: 1" = 40'	PROPOSED GRASSY SWALE FLOW LINE	
VERT: 1" = 4'		

GRASSY SWALE ALONG WHISKEY BARREL DRIVE



DESIGNED BY: QD	DRAFTED BY: CJP
DATE	
REVISION	

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
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5501 West William Cannon Dr.
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Phone No. (512) 280-5160
North Office
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Austin, Texas 78750
www.cbdengr.com

SHEET NAME: GRASSY SWALE ALONG WHISKEY BARREL DRIVE 17+00-25+00

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

QUYNN DUSEK
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 136 OF 162

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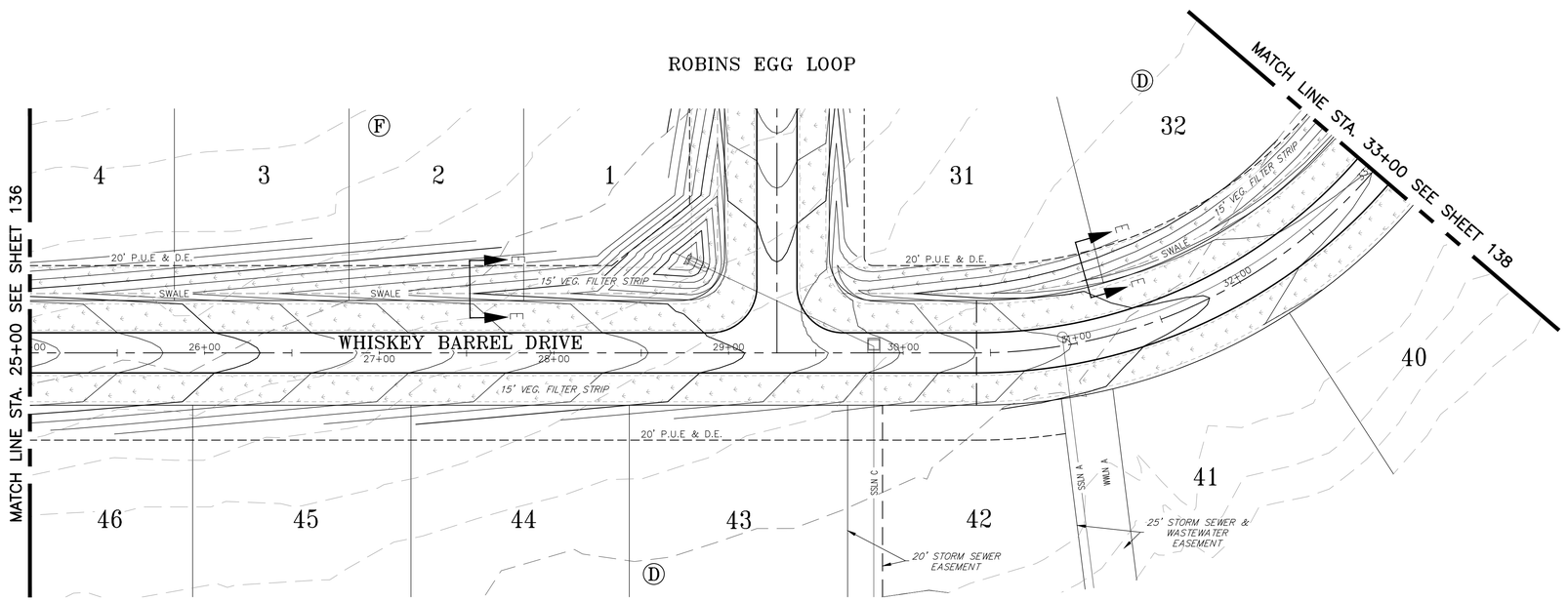
SUB-STREET.CTB



LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

SCALE: 1" = 40'

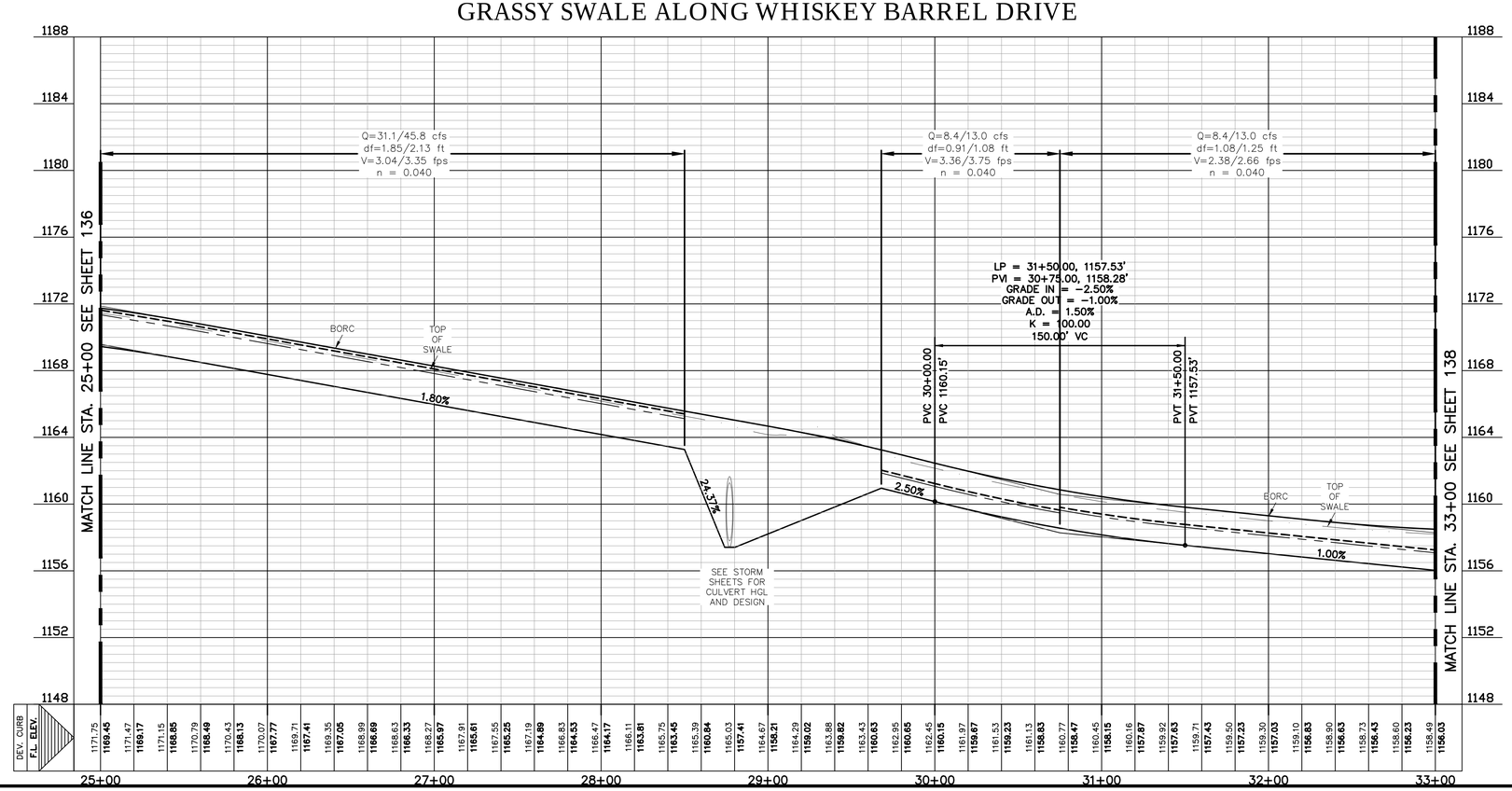
NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

CROSS SECTION E-E

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE

GRASSY SWALE ALONG WHISKEY BARREL DRIVE



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DESIGNED BY: QD	DRAFTED BY: CJP
DATE	
REVISION	

Carlson, Brigance & Doering, Inc.
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Austin, Texas 78750
www.cbdeng.com

SHEET NAME: GRASSY SWALE ALONG WHISKEY BARREL DRIVE 25+00-33+00

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

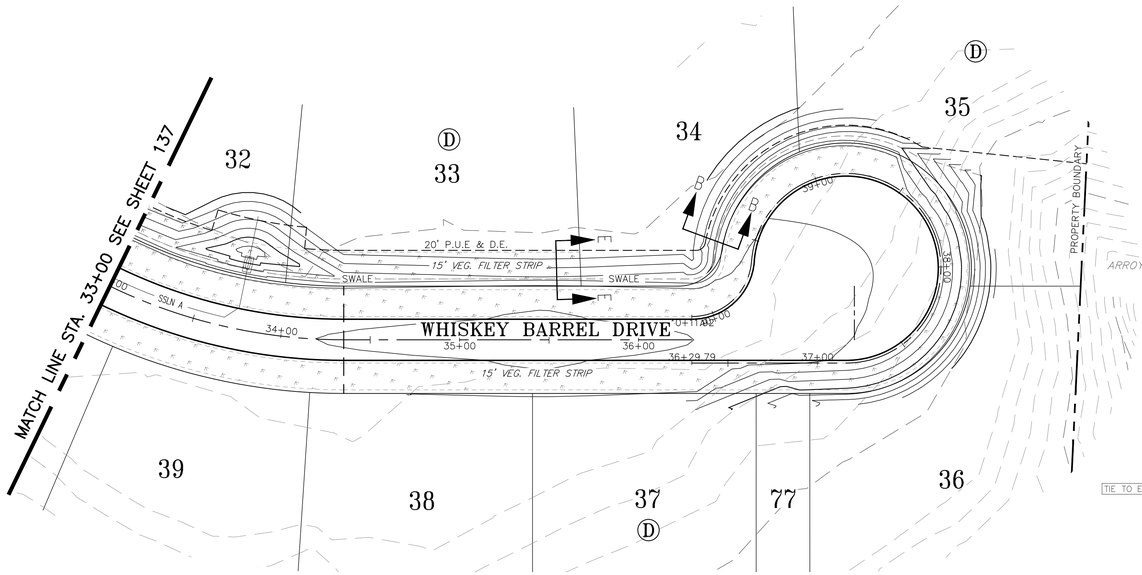
QUYNN DUSEK
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

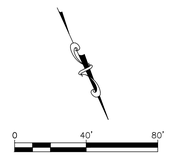
JOB NUMBER: 5079

SHEET: 137 OF 162

SUB-STREET.CTB

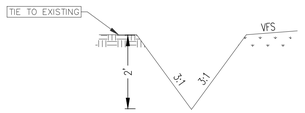


LEGEND	
1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

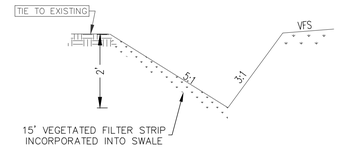


SCALE: 1" = 40'

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

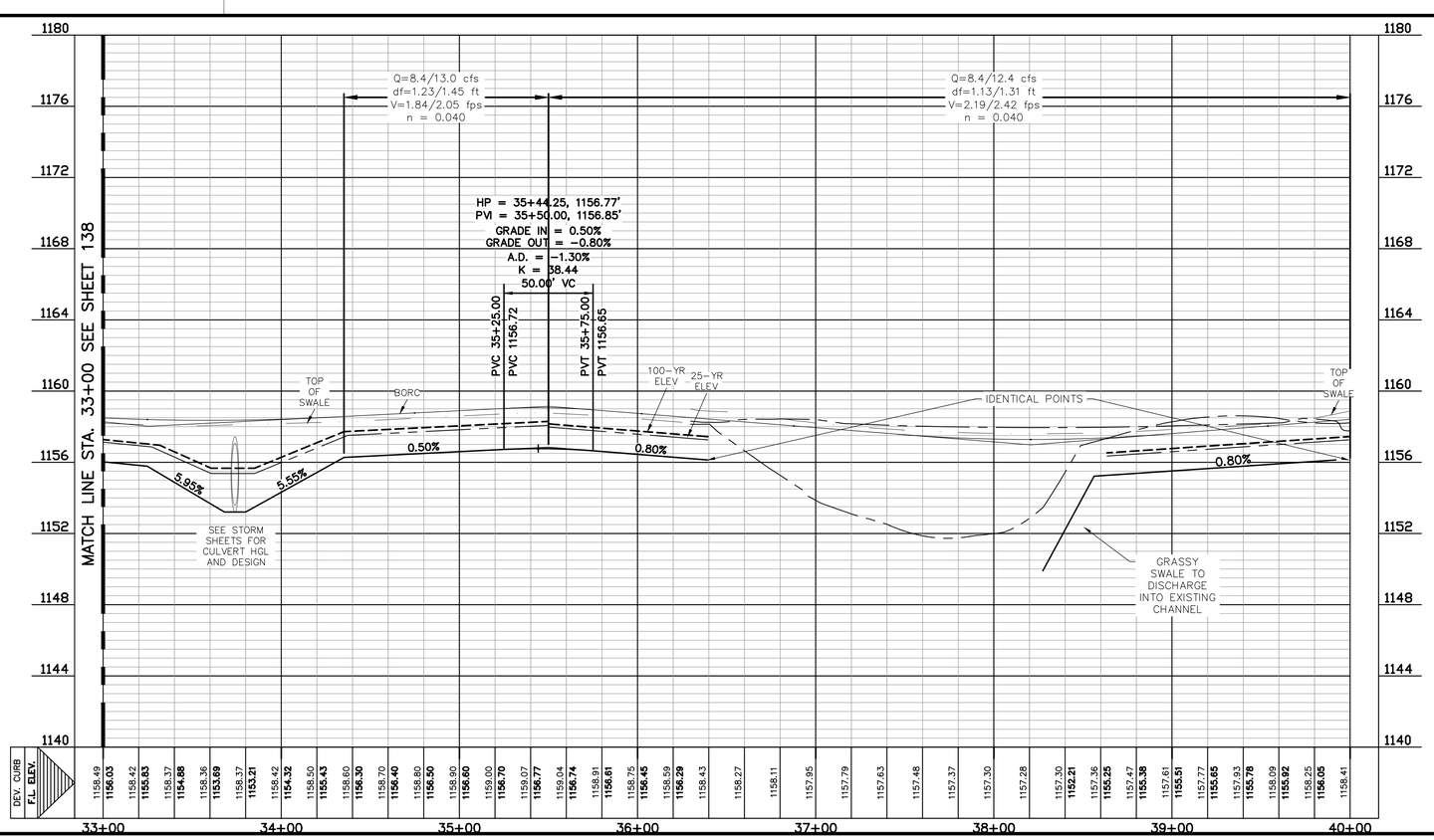


CROSS SECTION B–B



CROSS SECTION E–E

PROFILE SCALE		
HORIZ: 1" = 40'	PROPOSED BACK OF RIBBON CURB	TOP OF SWALE
VERT: 1" = 4'	PROPOSED GRASSY SWALE FLOW LINE	



DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE

REVISION

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Civil Engineering ◆ Surveying
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Phone No. (512) 280-5160
North Office
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Austin, Texas 78750
www.cbdengr.com

SHEET NAME: GRASSY SWALE ALONG WHISKEY BARREL DRIVE

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 138 OF 162

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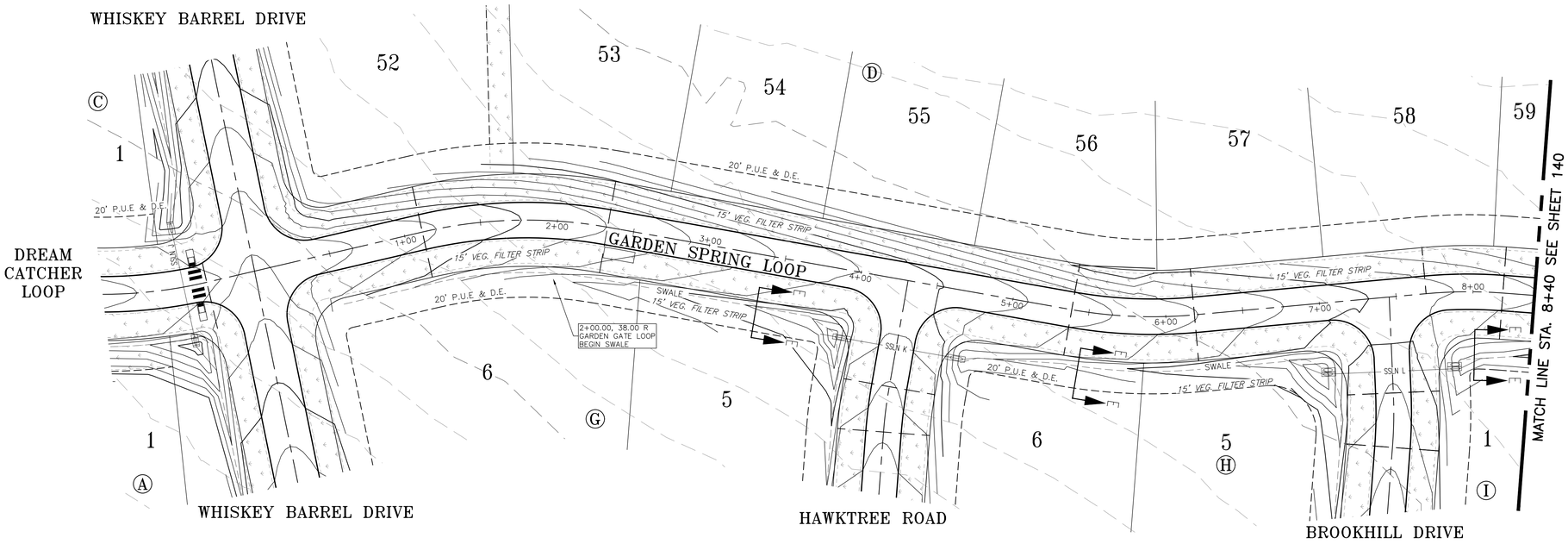


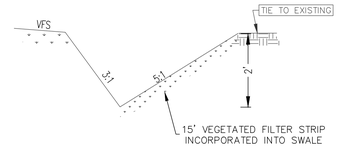
PROFILE SCALE	PROPOSED BACK OF RIBBON CURB	TOP OF SWALE
HORIZ: 1" = 40'	PROPOSED GRASSY SWALE FLOW LINE	
VERT: 1" = 4'		

LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

0 40' 80'

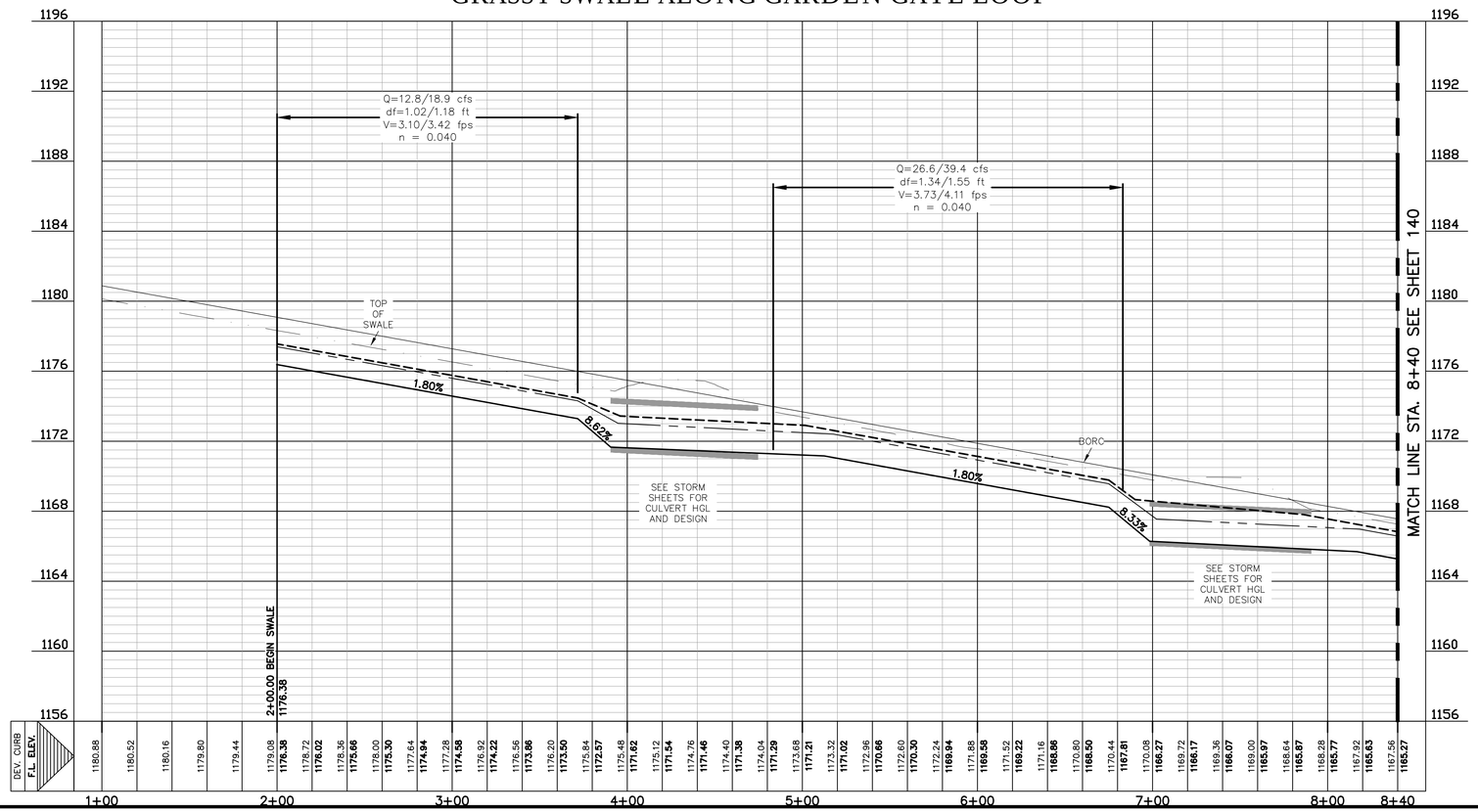
SCALE: 1" = 40'



CROSS SECTION E-E

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

GRASSY SWALE ALONG GARDEN GATE LOOP



DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
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Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdeng.com

SHEET NAME: GRASSY SWALE ALONG GARDEN SPRING 0+00-8+40

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

QUYNN DUSEK 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 139 OF 162

SUB:STREET.CTB

FILE PATH: J:\ACAD\5079\dwg\Construction Plans\5079-DITCH PLAN.dwg - Jun 14, 2023 - 10:15am

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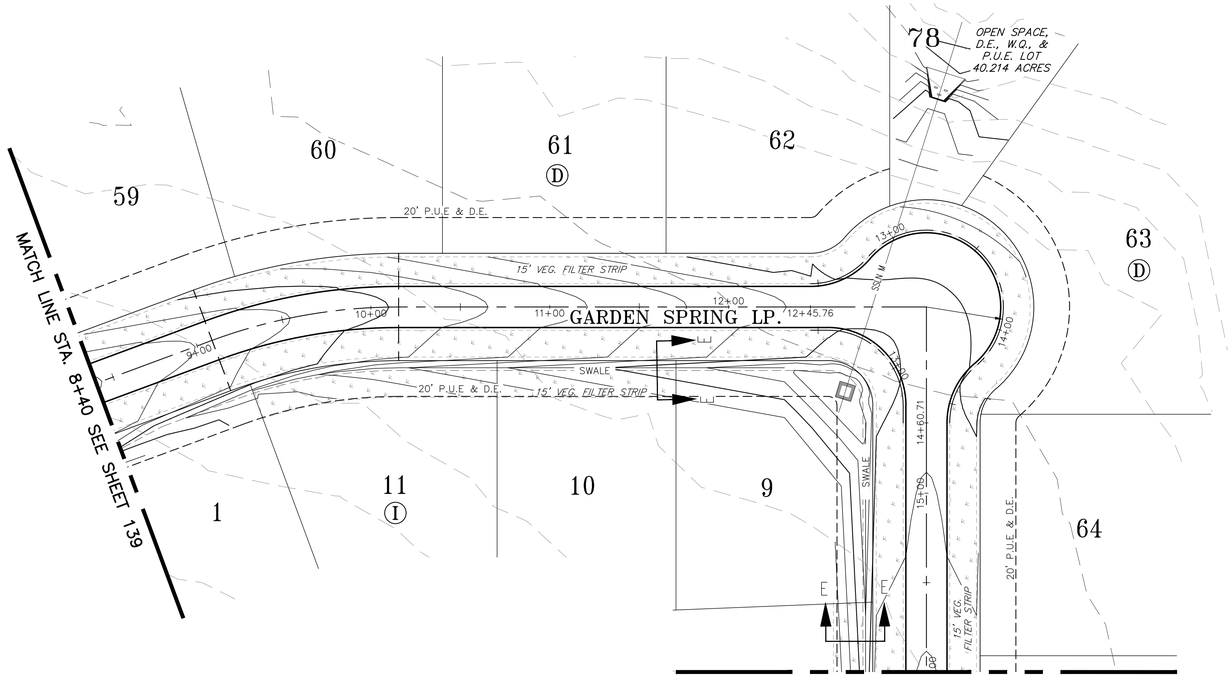
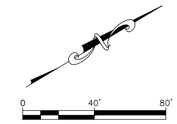
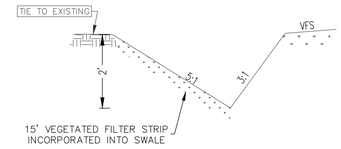




SCALE: 1" = 40'



CROSS SECTION E-E

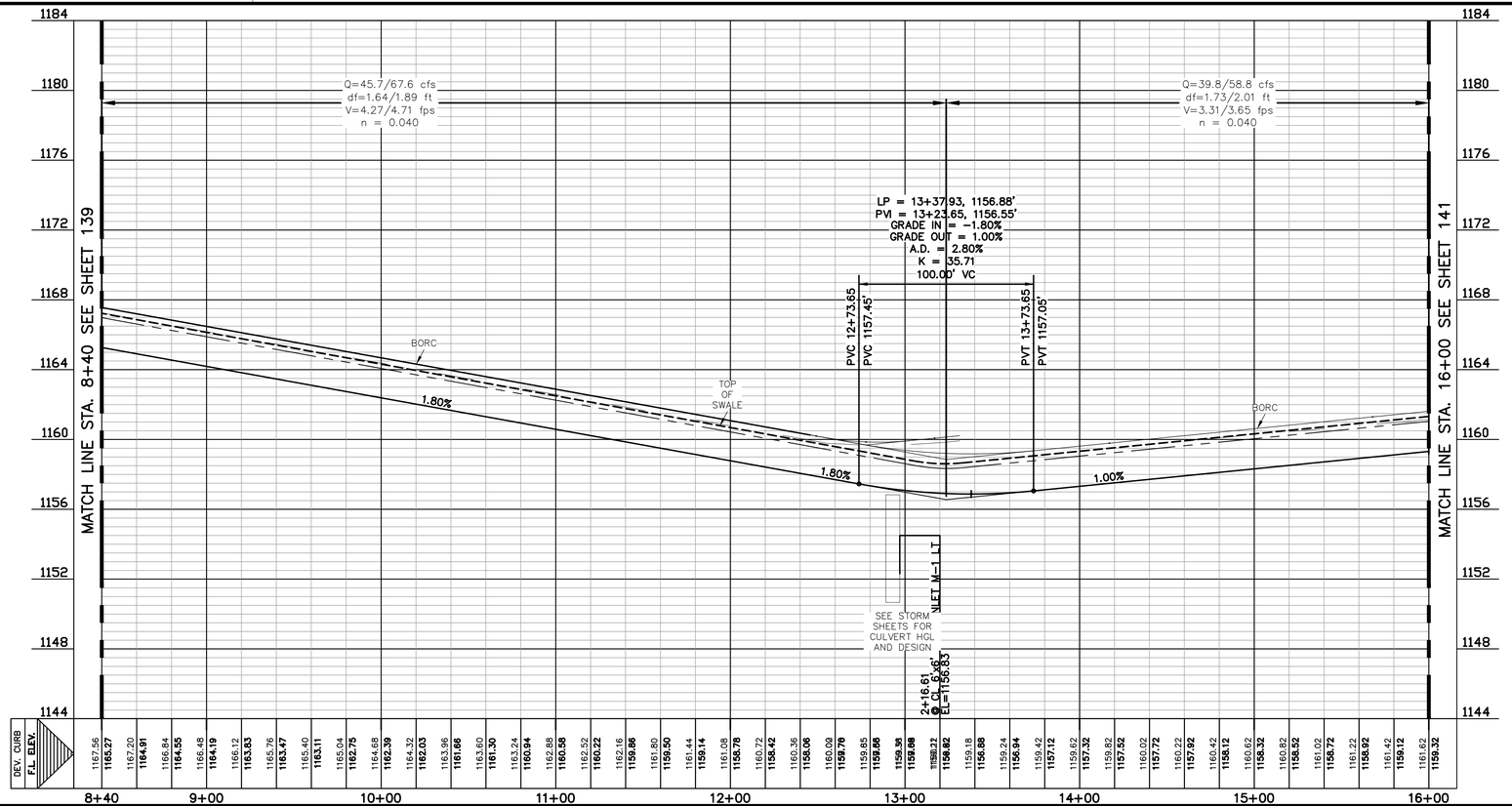
NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE



DESIGNED BY: QD
DRAFTED BY: CJP

DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office
5501 West William Cannon Dr.
Austin, Texas 78749
Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdengr.com

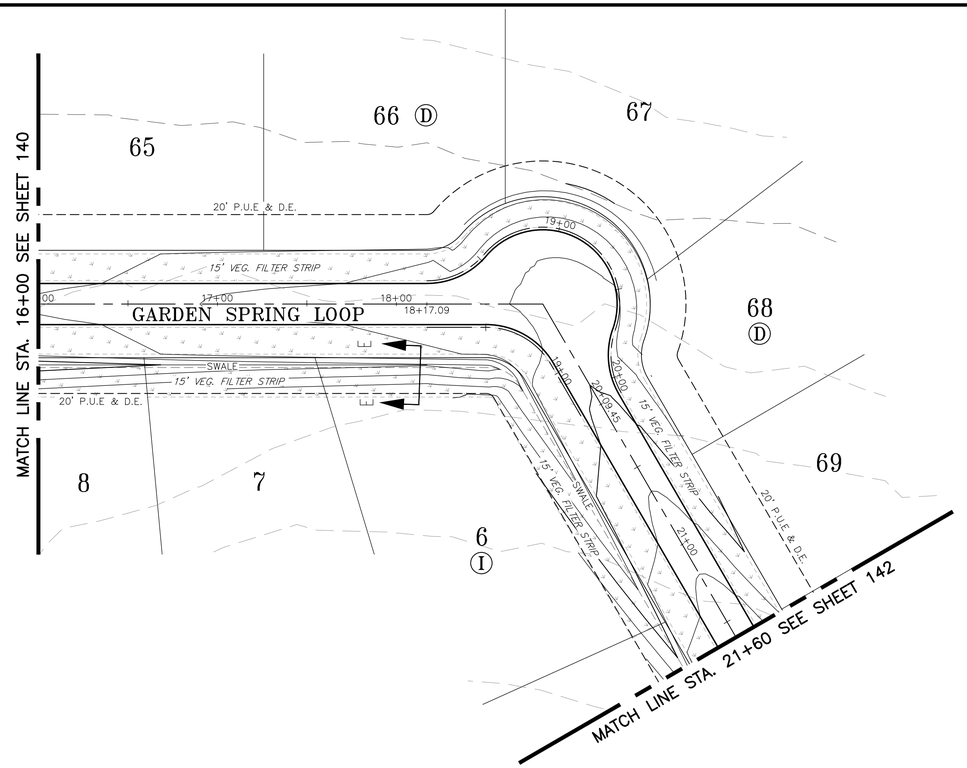
SHEET NAME: GRASSY SWALE ALONG GARDEN SPRING 8+40-16+00
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE
June 2023
JOB NUMBER
5079
SHEET
140 OF 162

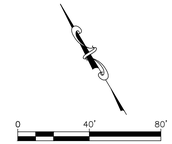
FILE PATH: J:\ACAD\5079\dwg\Construction Plans\5079-DITCH PLAN.dwg - Jun 14, 2023 - 10:15am

SUB-STREET.CTB

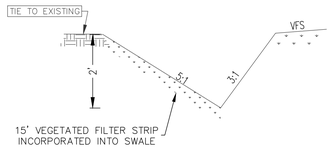


LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE



SCALE: 1" = 40'

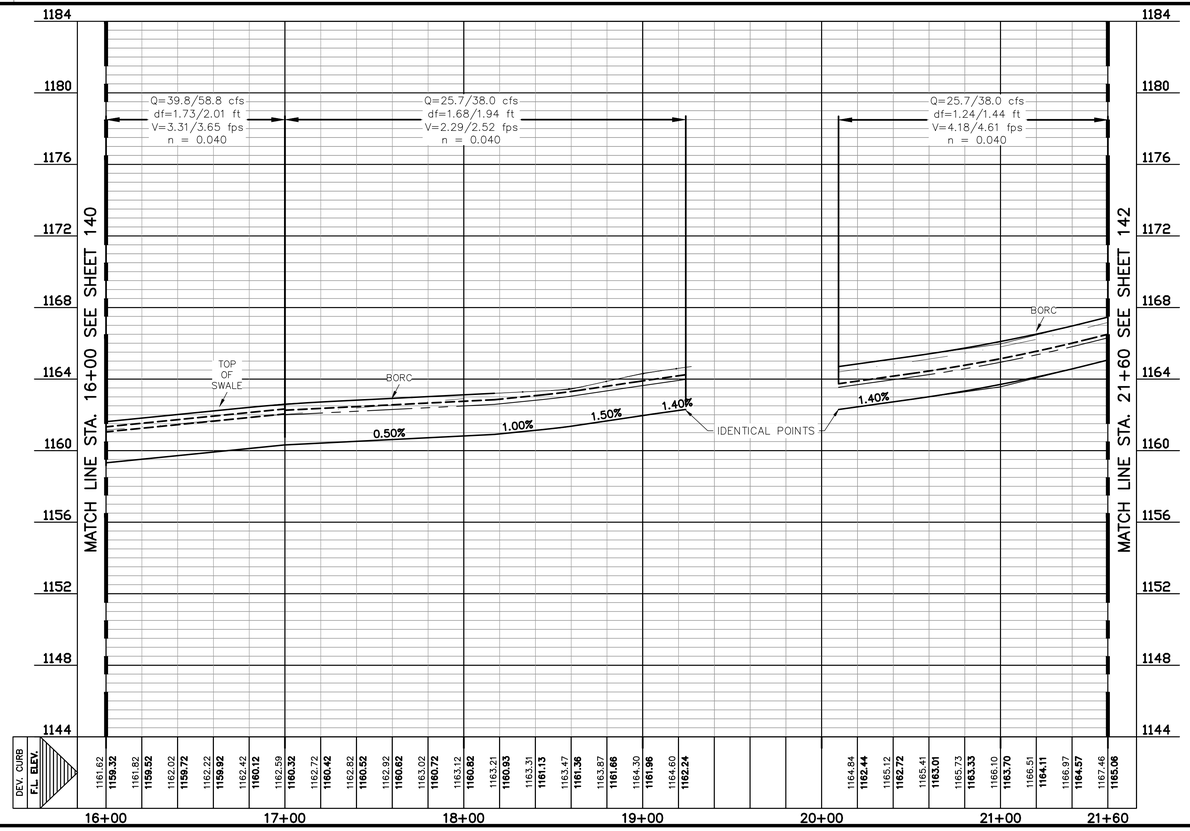


CROSS SECTION E-E

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE



DESIGNED BY: QD
DRAFTED BY: CJP

DATE	REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
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5501 West William Cannon Dr. Ste. 160
Austin, Texas 78749
Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdengr.com

SHEET NAME: GRASSY SWALE ALONG GARDEN SPRING 16+00-21+60
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 141 OF 162

FILE PATH: J:\ACAD\5079\dwg\Construction Plans\5079-DITCH PLAN.dwg - Jun 14, 2023 - 10:15am

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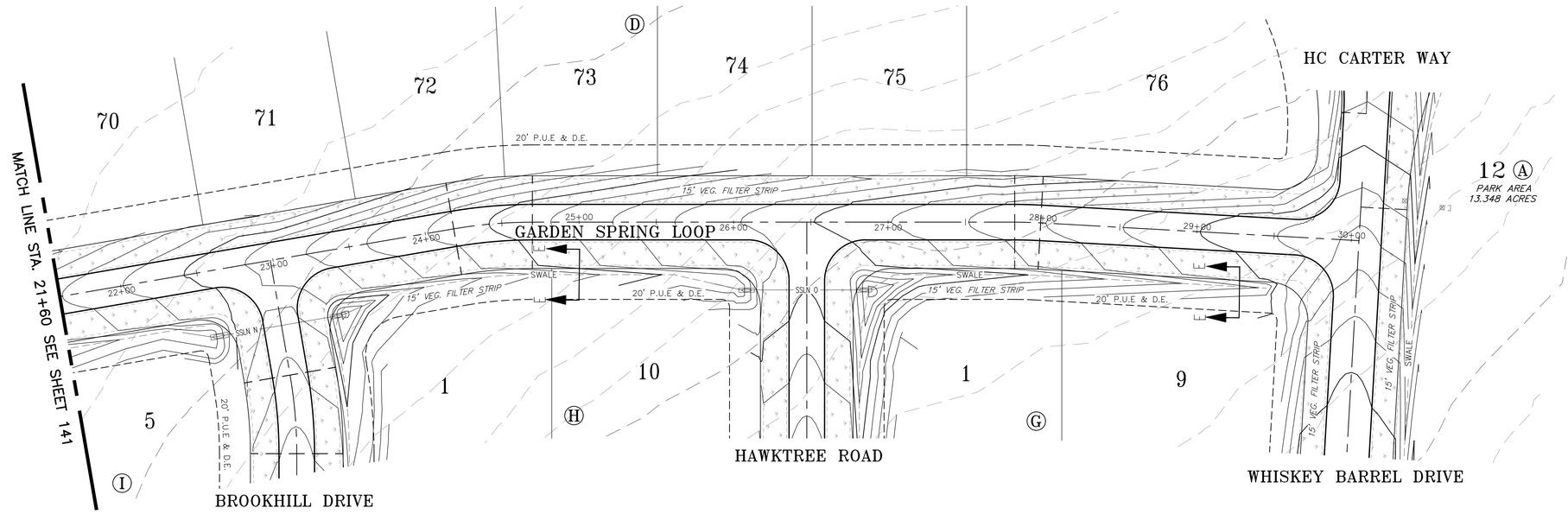
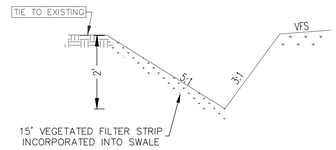


LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

0 40' 80'

SCALE: 1" = 40'

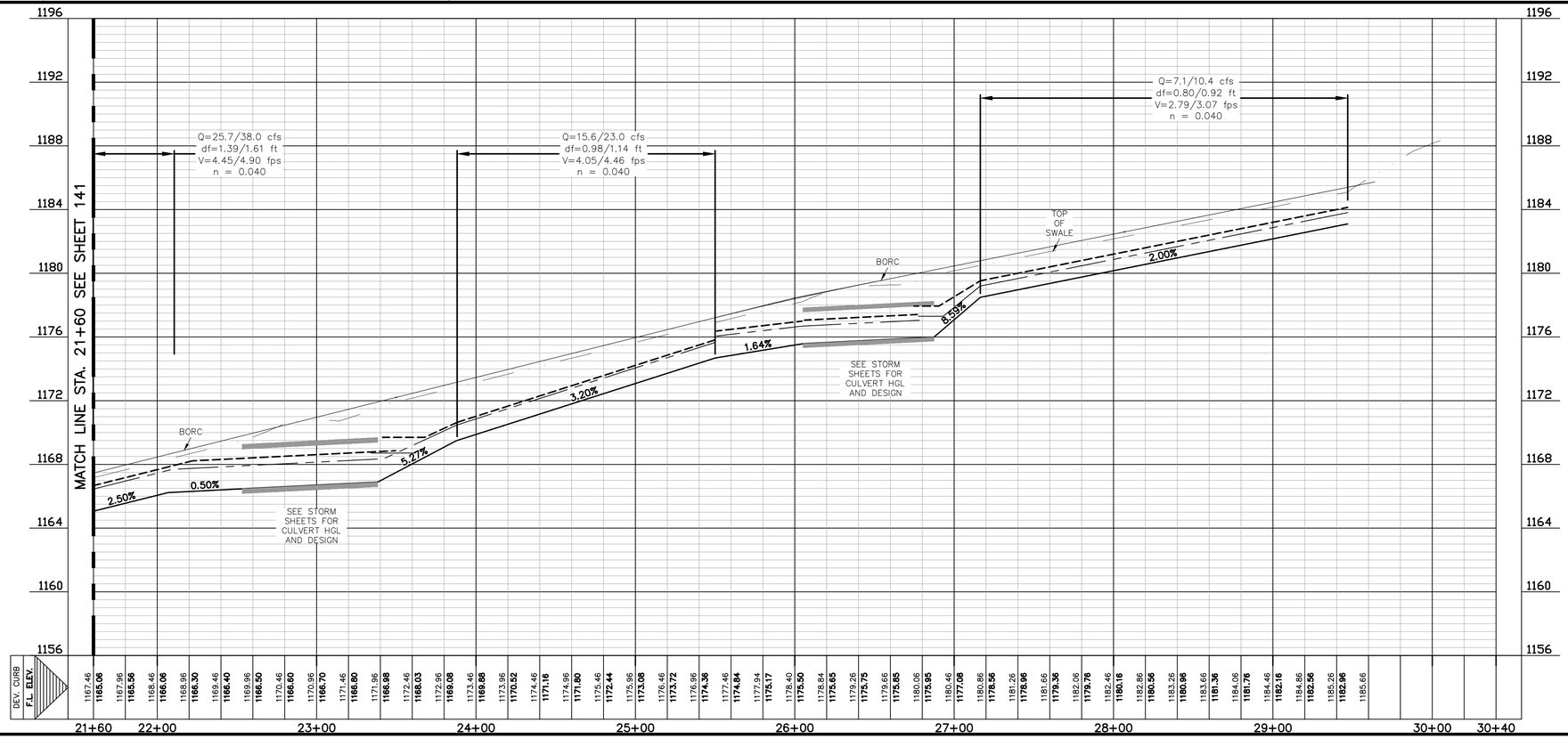


CROSS SECTION E-E

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE



DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
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Austin, Texas 78735
Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdengr.com

SHEET NAME: GRASSY SWALE ALONG GARDEN SPRING 21+60-END

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

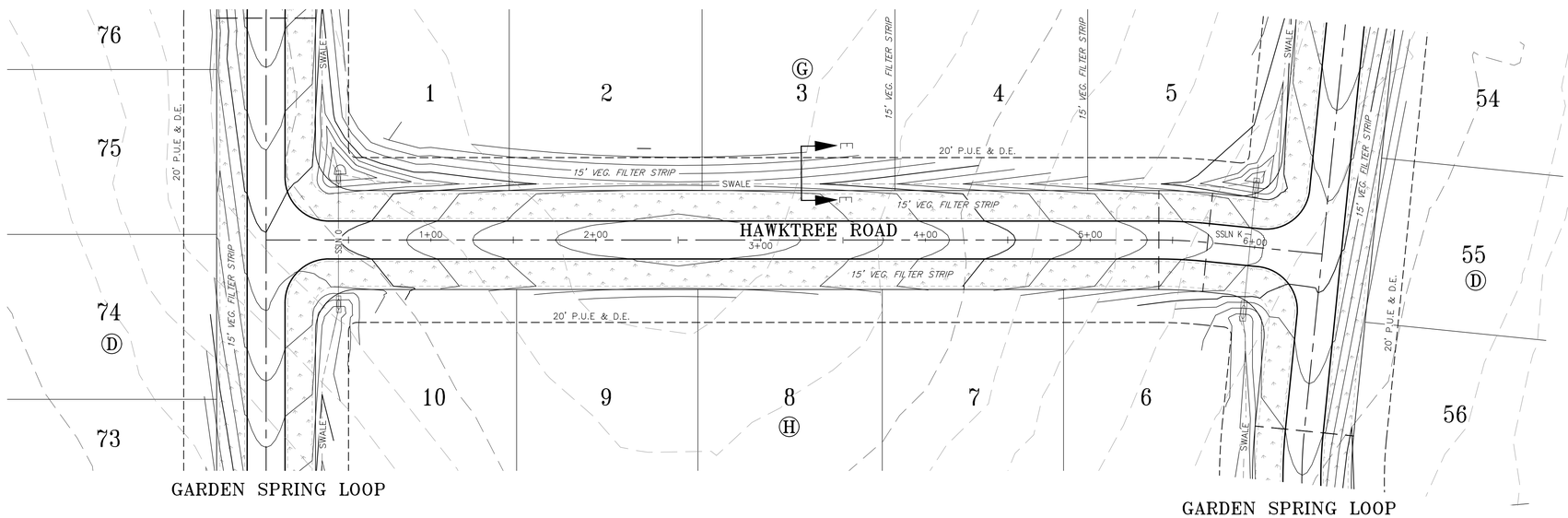
DATE
June 2023

JOB NUMBER
5079

SHEET
142 OF 162

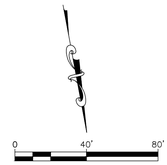
FILE PATH: J:\ACAD\5079\dwg\Construction Plans\5079-DITCH PLAN.dwg - Jun 14, 2023 - 10:16am

SUB-STREET.CTB

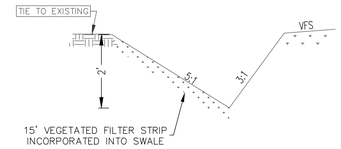


LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE



SCALE: 1" = 40'



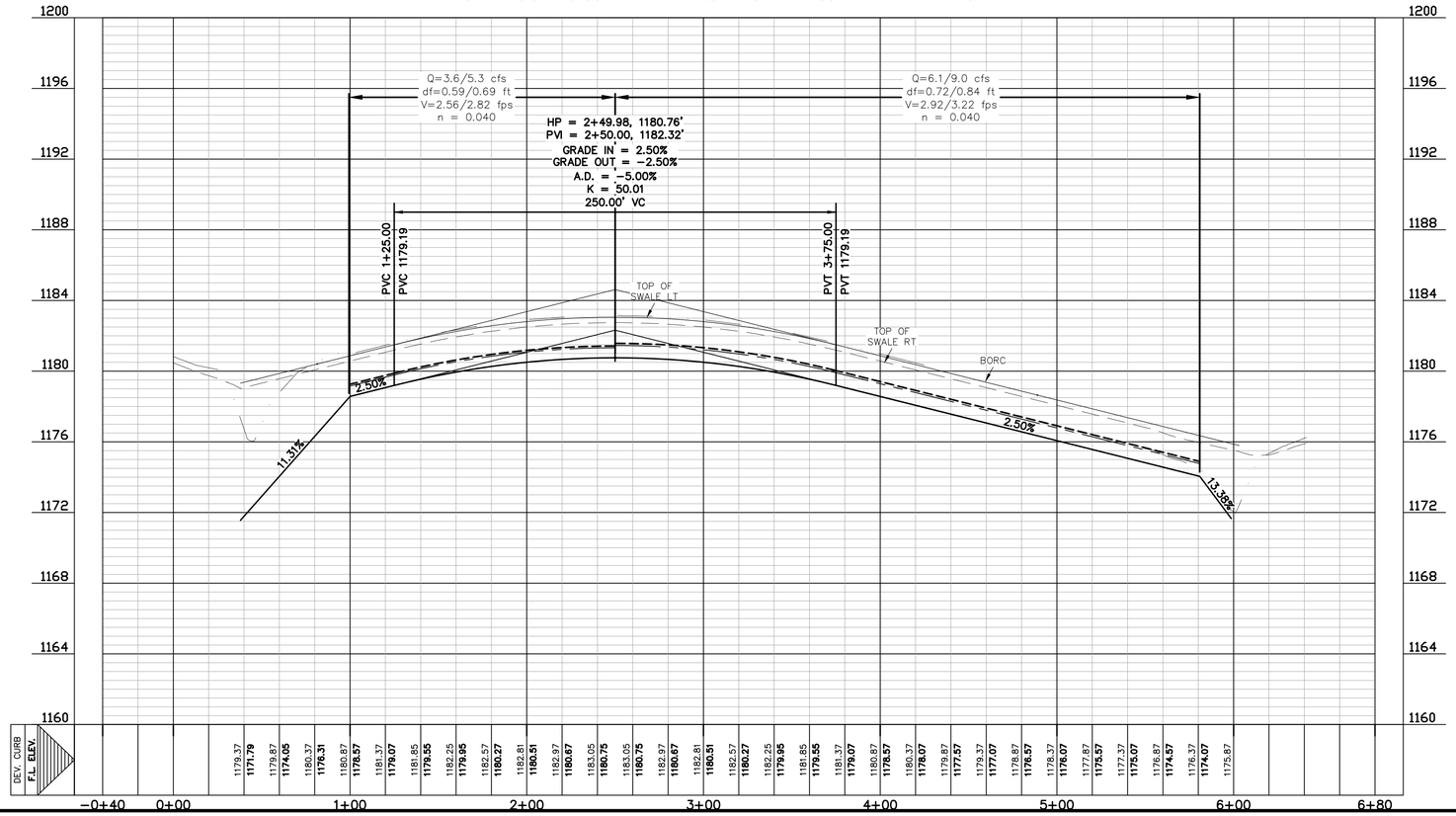
CROSS SECTION E-E

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
TOP OF SWALE
PROPOSED GRASSY SWALE FLOW LINE

GRASSY SWALE ALONG HAWKTREE ROAD



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DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
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5501 West William Cannon Dr. Ste. 600
Austin, Texas 78749
Phone No. (512) 280-5160
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12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdengr.com

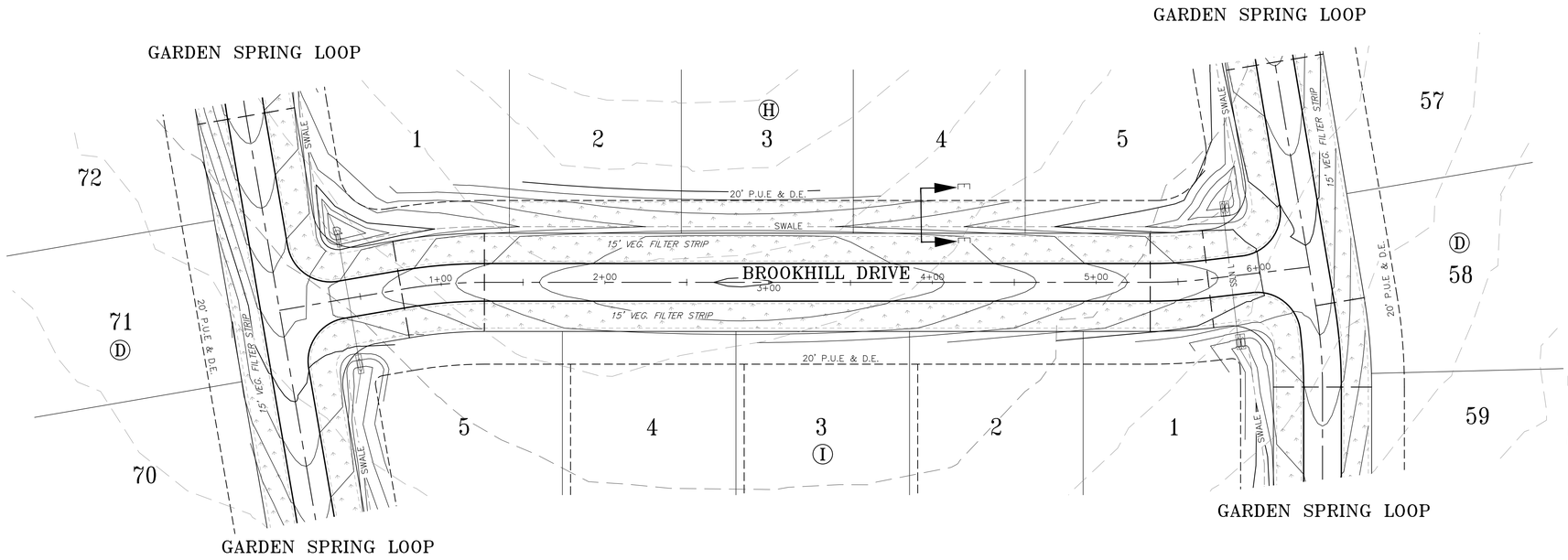
SHEET NAME: GRASSY SWALE ALONG HAWKTREE ROAD 0+00-END
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

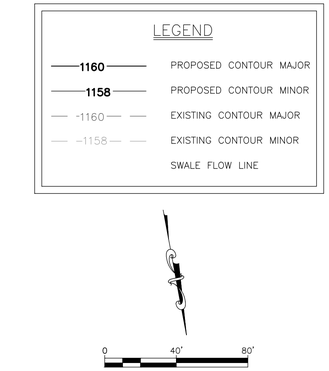
Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

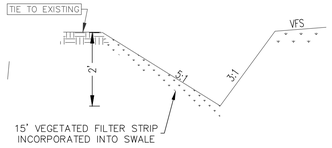
DATE: June 2023
JOB NUMBER: 5079
SHEET: 143 OF 162

SUB-STREET.CTB





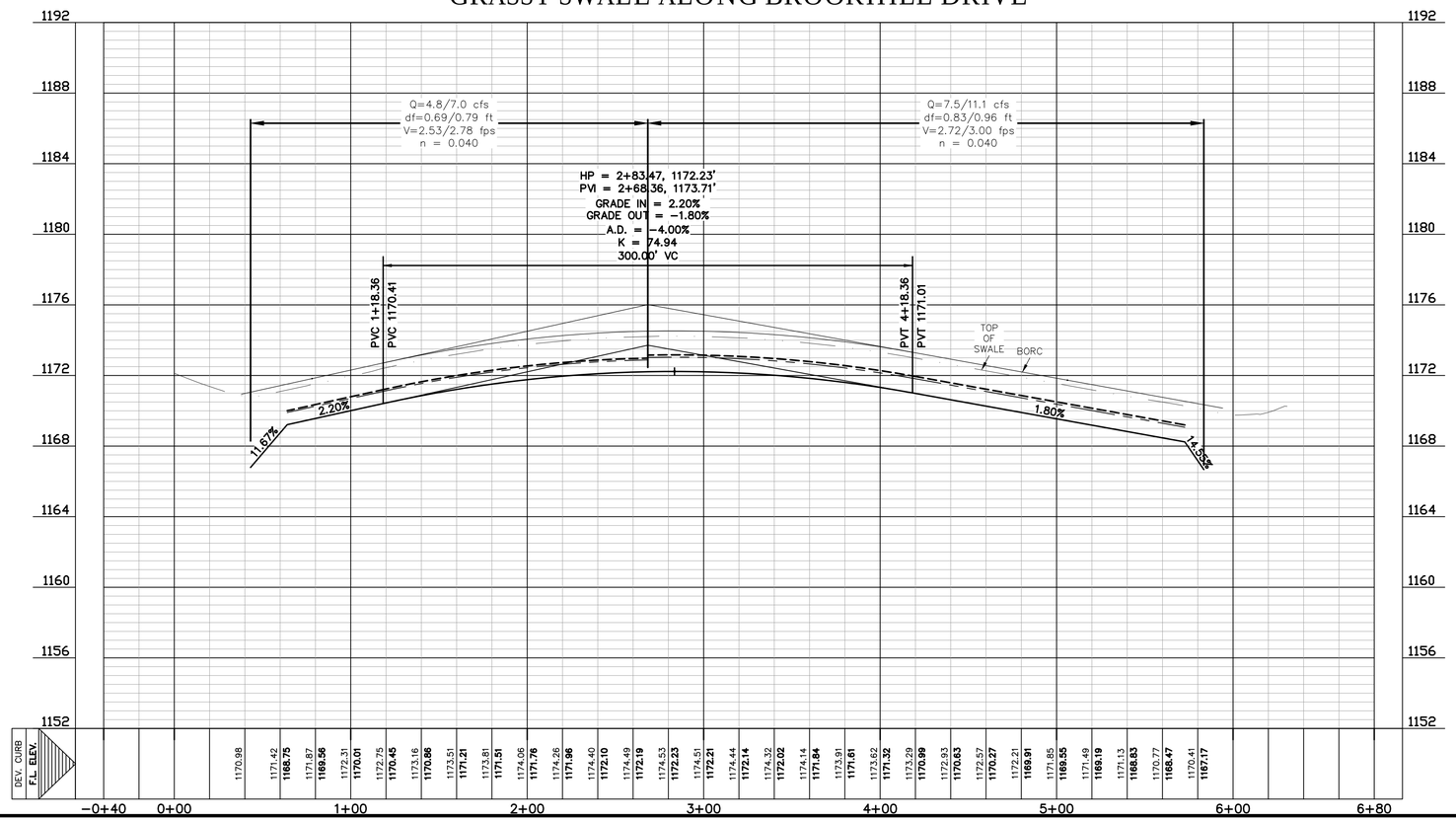
SCALE: 1" = 40'



CROSS SECTION E-E

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

GRASSY SWALE ALONG BROOKHILL DRIVE



DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE

REVISION

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Austin, Texas
Phone No. (512) 280-5160
North Office
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Austin, Texas 78750
www.cbdengr.com

SHEET NAME: GRASSY SWALE ALONG BROOKHILL DRIVE 0+00-END

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

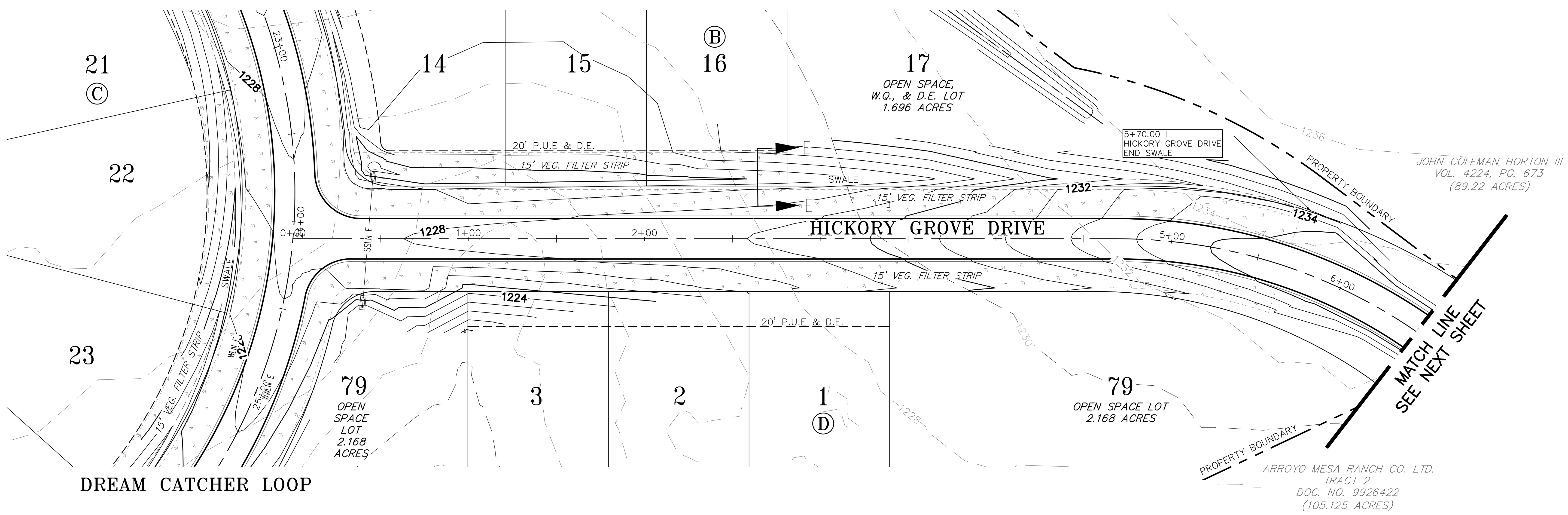
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE
June 2023

JOB NUMBER
5079

SHEET
144 OF 162

FILE PATH:J:\AC2050796\dwg\Construction Plans\5079-DITCH PLAN.dwg - Jun 14, 2023 - 10:16am



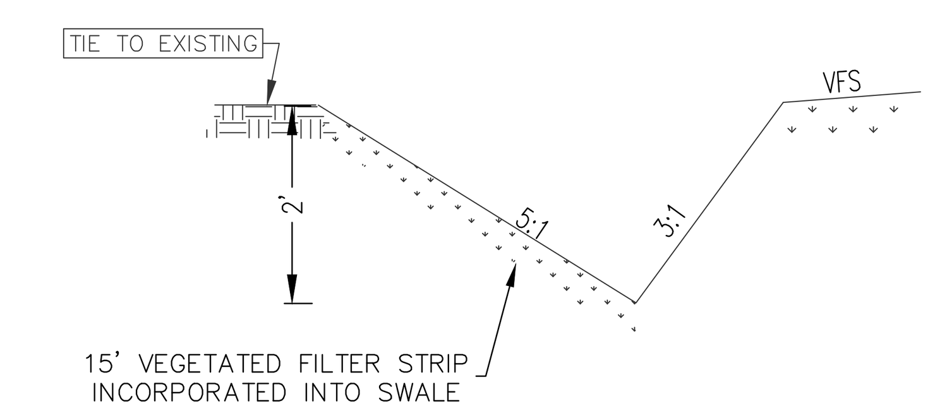
LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
— — —	SWALE FLOW LINE

0 40' 80'

SCALE: 1" = 40'

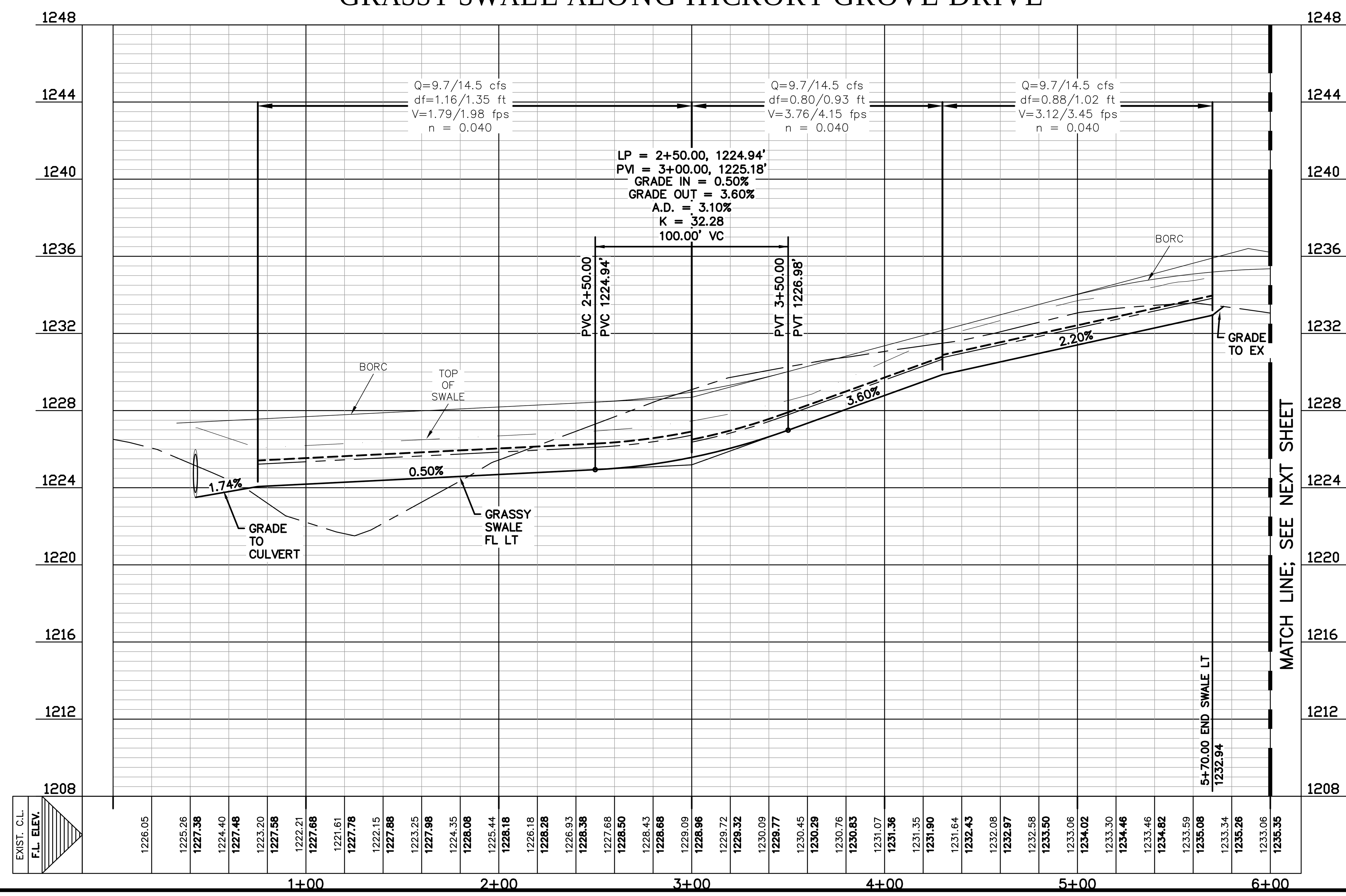
NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS



CROSS SECTION E–E

PROFILE SCALE		
HORIZ: 1" = 40'	PROPOSED BACK OF RIBBON CURB	TOP OF SWALE
VERT: 1" = 4'	PROPOSED GRASSY SWALE FLOW LINE	

GRASSY SWALE ALONG HICKORY GROVE DRIVE



DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE

REVISION

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Austin, Texas 78750
www.cbdeng.com

SHEET NAME: GRASSY SWALE ALONG HICKORY GROVE DRIVE 0+00-8+60

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC. ID# F3791

DATE June 2023

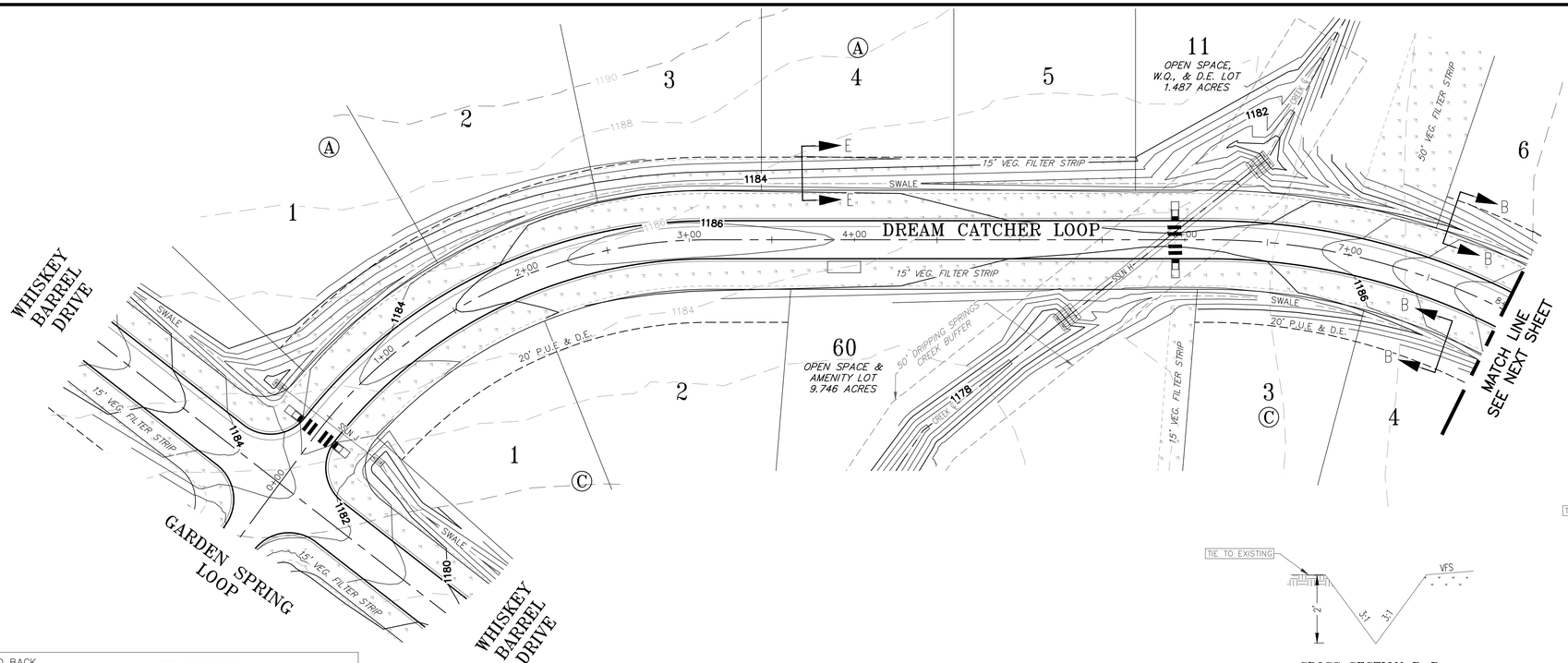
JOB NUMBER 5079

SHEET 145 OF 162

SUB-STREET.CTB

FILE PATH:J:\AC3D\5079\dwg\Construction Plans\5079-DITCH PLAN2.dwg - Jun 14, 2023 - 10:18am

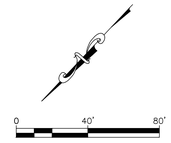
SUB-STREET.CTB



PROFILE SCALE	PROPOSED BACK OF RIBBON CURB	TOP OF SWALE
HORIZ: 1" = 40'		
VERT: 1" = 4'	PROPOSED GRASSY SWALE FLOW LINE	

LEGEND

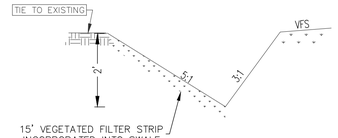
1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE



SCALE: 1" = 40'

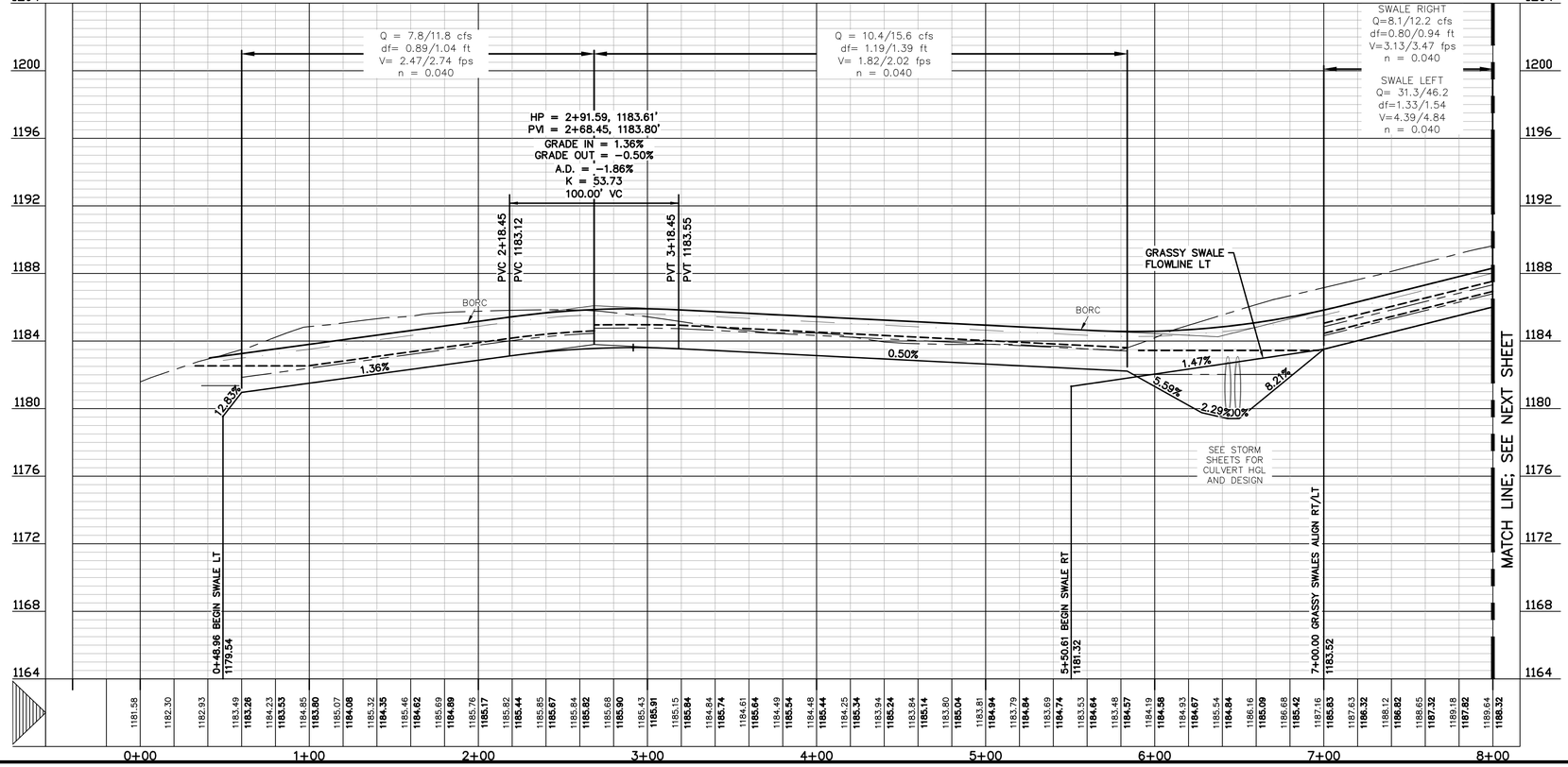
NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

CROSS SECTION B–B



CROSS SECTION E–E

GRASSY SWALE ALONG DREAM CATCHER LOOP



DESIGNED BY: QD	DRAFTED BY: CJP
DATE	
REVISION	

Carlson, Brigance & Doering, Inc.
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Phone No. (512) 280-5160
North Office
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Austin, Texas 78750
www.cbdeng.com

SHEET NAME: GRASSY SWALE ALONG DREAM CATCHER LOOP 0+00-8+00

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

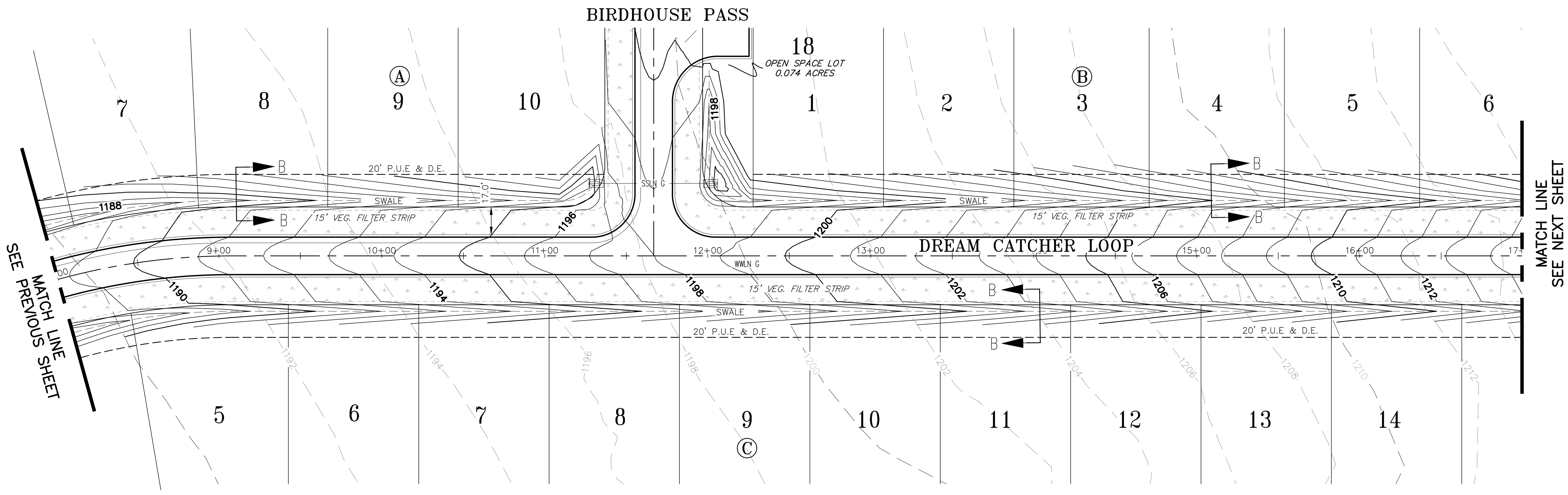
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 146 OF 162

FILE PATH: J:\ACAD\5079-Dwg\Construction Plans\5079-DITCH PLAN2.dwg - Jun 14, 2023 - 10:18am



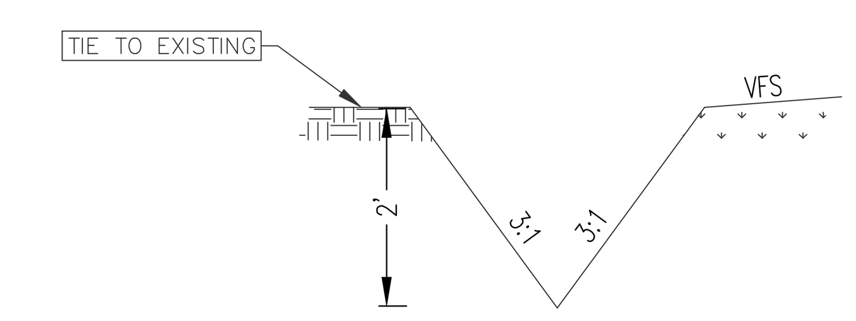
LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
-1160	EXISTING CONTOUR MAJOR
-1158	EXISTING CONTOUR MINOR
— — —	SWALE FLOW LINE

0 40' 80'

SCALE: 1" = 40'

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

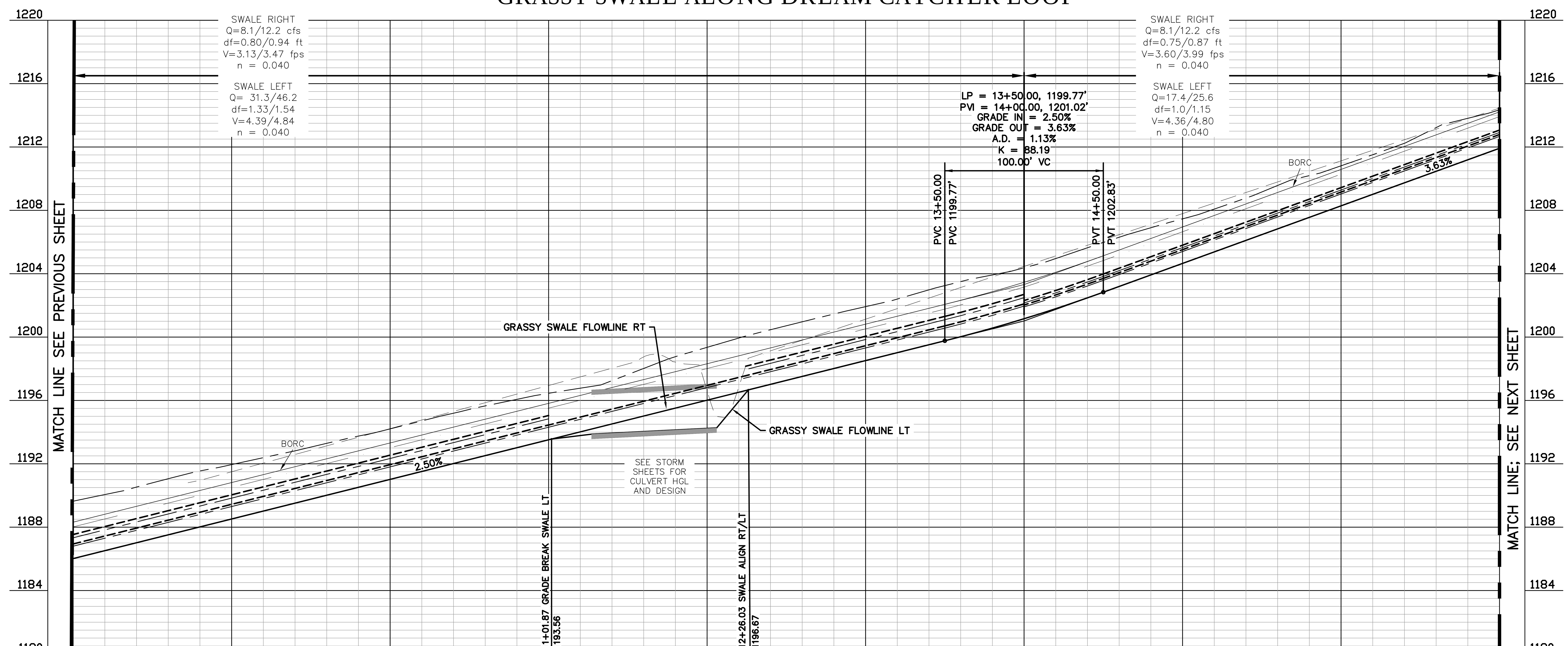


CROSS SECTION B–B

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE

GRASSY SWALE ALONG DREAM CATCHER LOOP



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8+00	1189.64	1188.32
	1190.06	1188.82
	1190.53	1189.32
	1191.06	1189.82
	1191.55	1190.32
9+00	1191.95	1190.82
	1192.39	1191.32
	1192.82	1191.82
	1193.29	1192.32
	1193.75	1192.82
10+00	1194.21	1193.32
	1194.71	1193.82
	1195.19	1194.32
	1195.66	1194.82
	1196.07	1195.32
11+00	1196.45	1195.82
	1196.77	1196.32
	1197.25	1196.82
	1198.02	1197.32
	1198.76	1197.82
12+00	1199.35	1198.32
	1199.94	1198.82
	1200.47	1199.32
	1200.96	1199.82
	1201.46	1200.32
13+00	1201.92	1200.82
	1202.40	1201.32
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	1203.50	1202.32
	1203.92	1202.87
14+00	1204.37	1203.46
	1204.96	1204.09
	1205.64	1204.78
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	1206.90	1206.22
15+00	1207.46	1206.95
	1208.08	1207.68
	1208.77	1208.40
	1209.57	1209.13
	1210.19	1209.86
16+00	1210.81	1210.58
	1211.51	1211.31
	1212.23	1212.04
	1213.22	1212.76
	1213.81	1213.49
17+00	1214.35	1214.22

DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
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Phone No. (512) 280-5160
North Office
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Austin, Texas 78750
www.cbdeng.com

SHEET NAME: GRASSY SWALE ALONG DREAM CATCHER LOOP 8+00-17+00

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

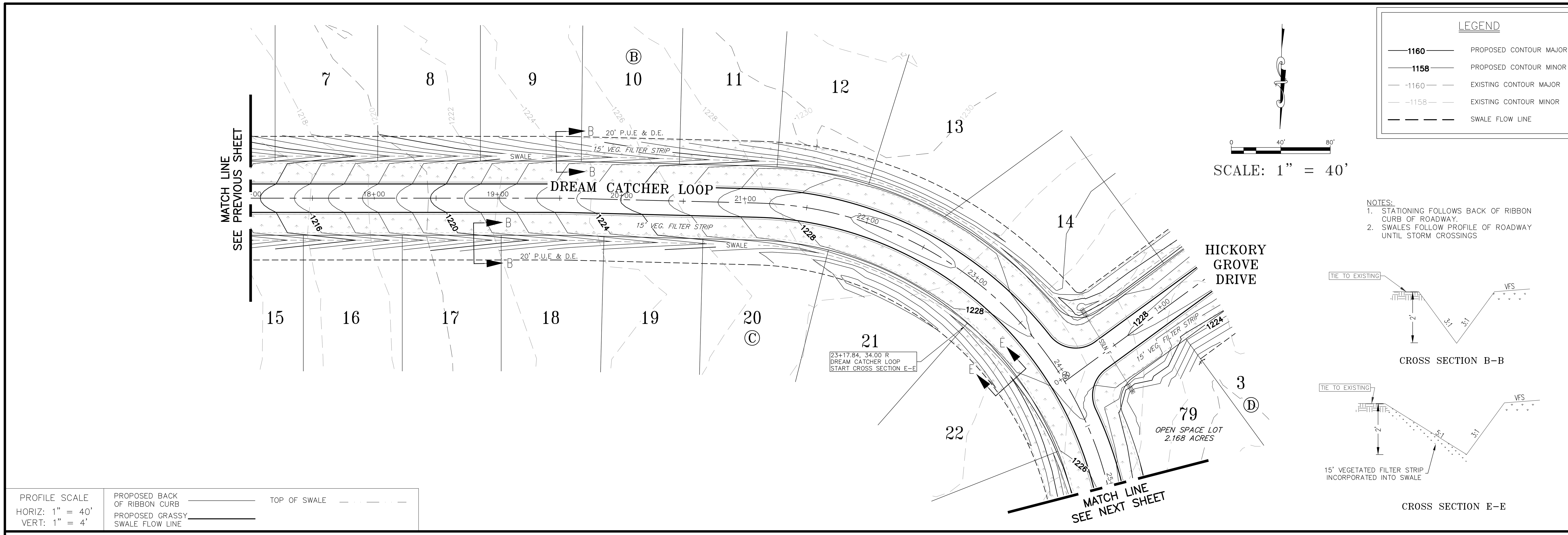
Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

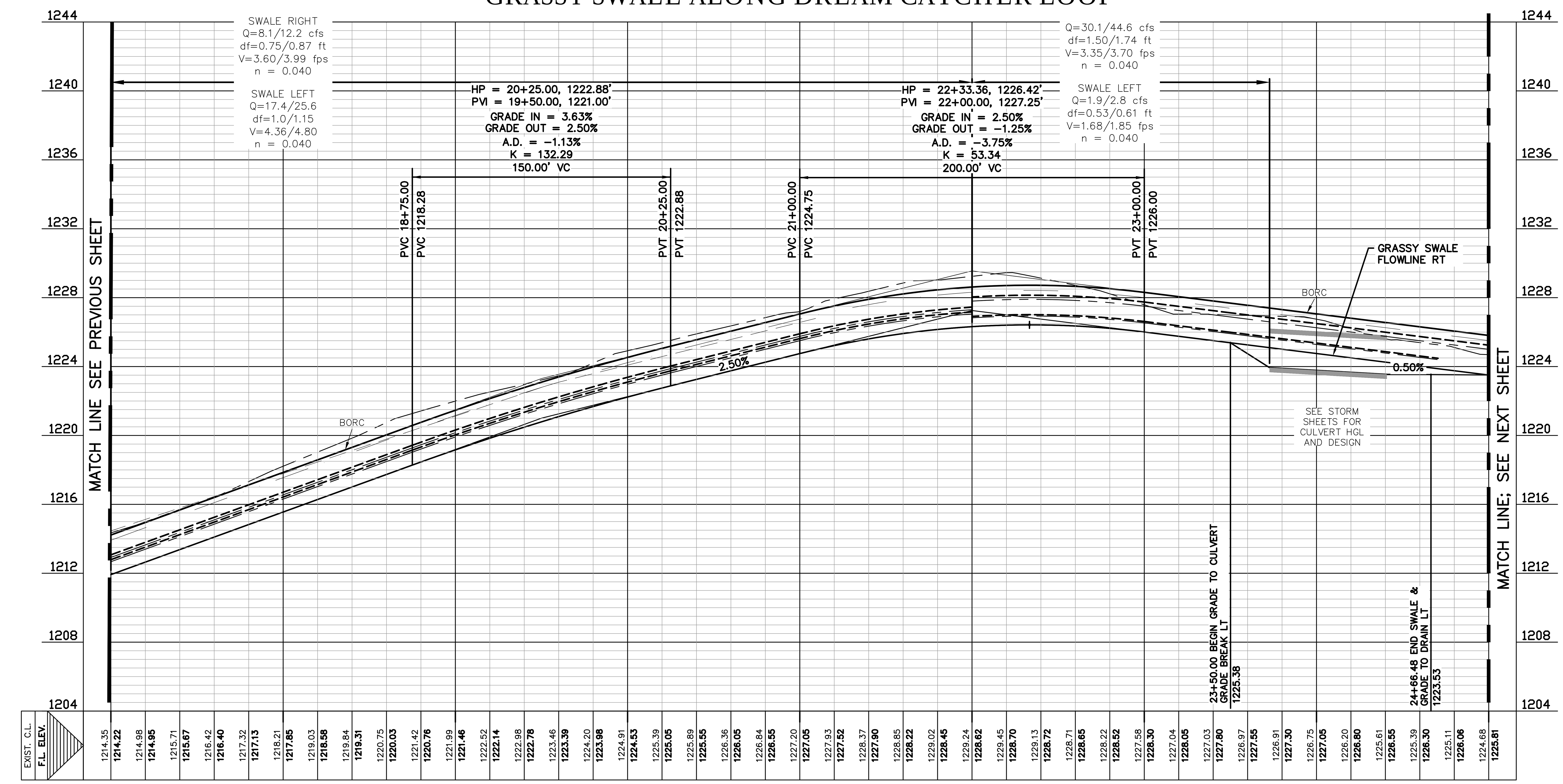
DATE June 2023

JOB NUMBER 5079

SHEET 147 OF 162



GRASSY SWALE ALONG DREAM CATCHER LOOP



DESIGNED BY: QD	DRAFTED BY: CJP
DATE	REVISION

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office: 5501 West William Cannon Dr., Austin, Texas 78749, Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600, Austin, Texas 78750, www.cbdeng.com

SHEET NAME: GRASSY SWALE ALONG DREAM CATCHER LOOP 17+00-25+00

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS · QUYNN DUSEK · 130416 · LICENSED PROFESSIONAL ENGINEER

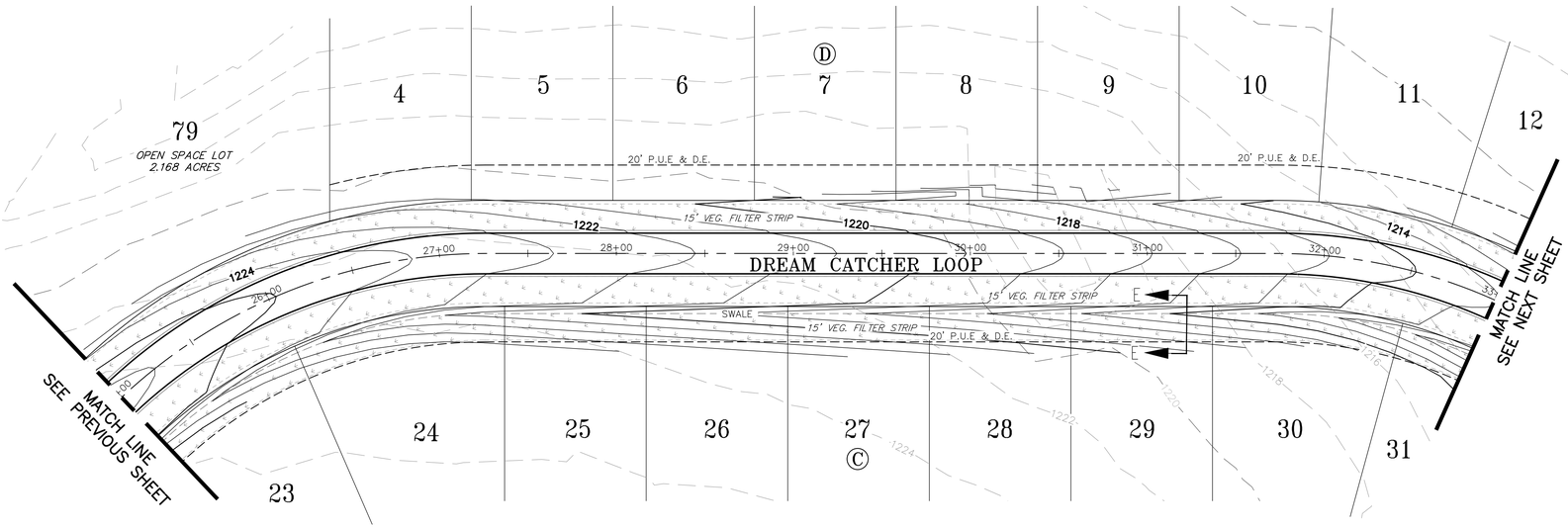
CARLSON, BRIGANCE & DOERING, INC. ID# F3791

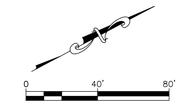
DATE: June 2023

JOB NUMBER: 5079

SHEET 148 OF 162

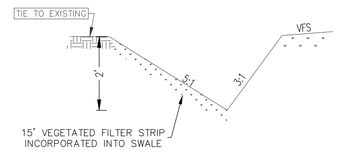
SUB-STREET.CTB





SCALE: 1" = 40'

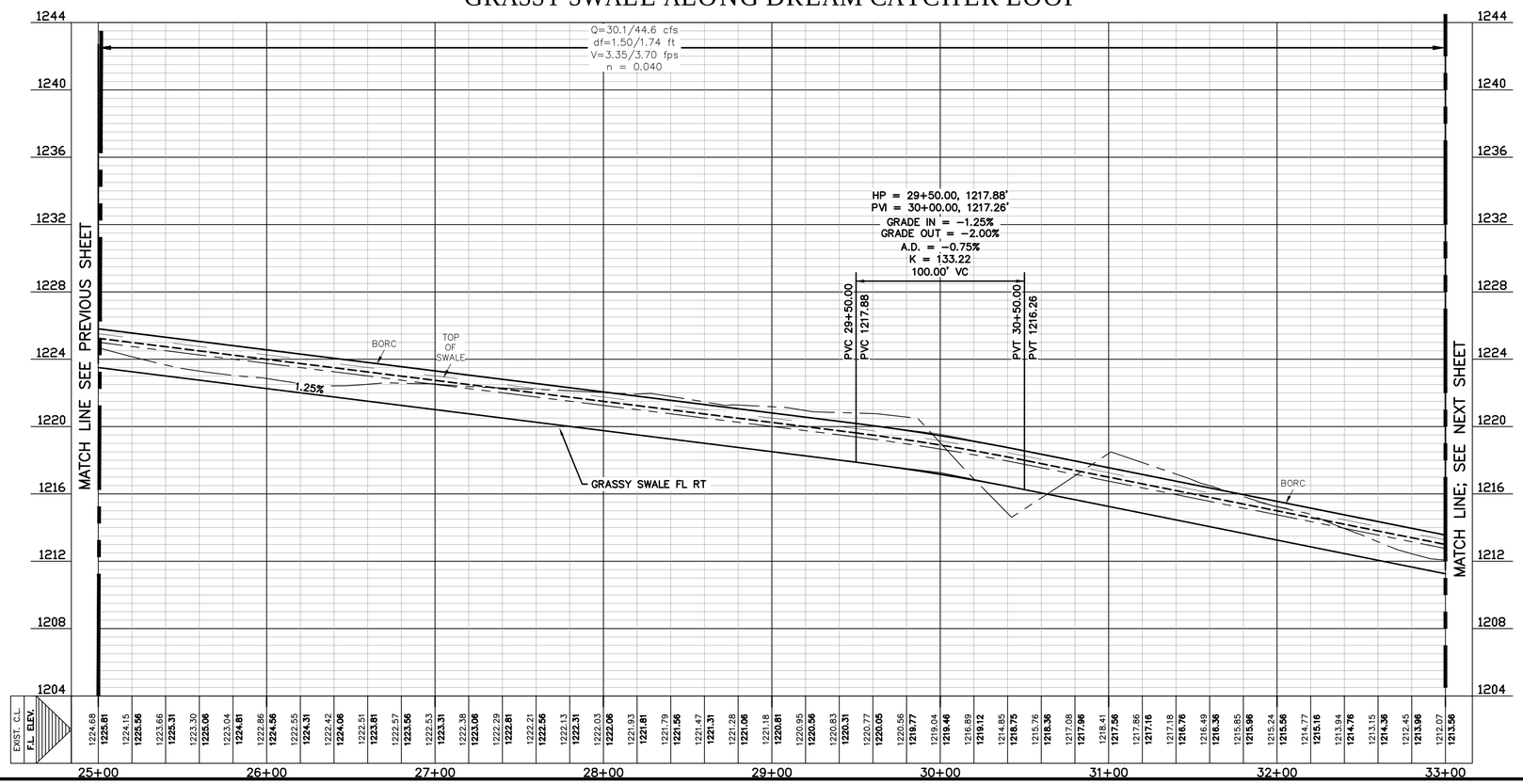
NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS



CROSS SECTION E-E

PROFILE SCALE	PROPOSED BACK OF RIBBON CURB	TOP OF SWALE
HORIZ: 1" = 40'		
VERT: 1" = 4'	PROPOSED GRASSY SWALE FLOW LINE	

GRASSY SWALE ALONG DREAM CATCHER LOOP



DESIGNED BY: QD	DRAFTED BY: CJP
DATE	
REVISION	

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Austin, Texas 78750
www.cbdeng.com

SHEET NAME: GRASSY SWALE ALONG DREAM CATCHER LOOP
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 149 OF 162

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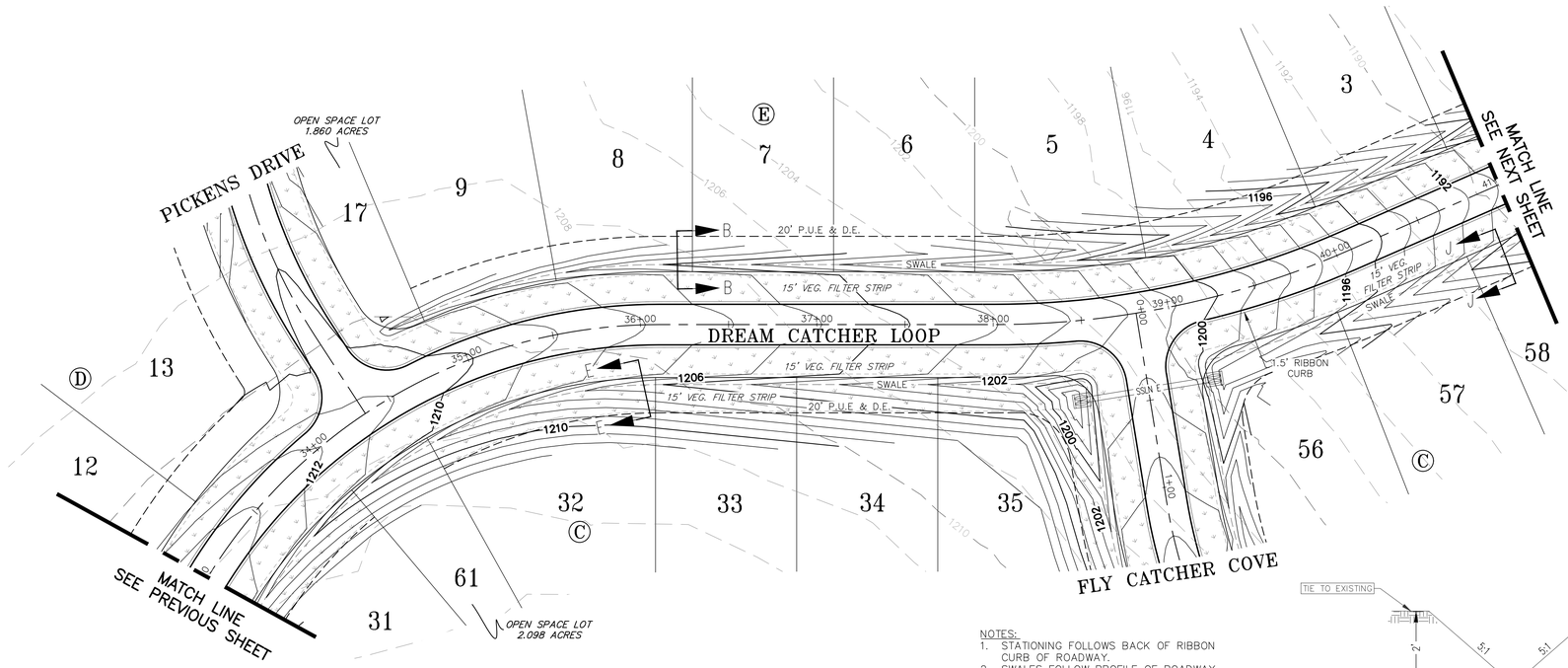
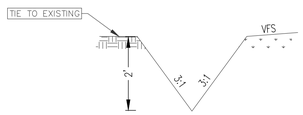


NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

LEGEND

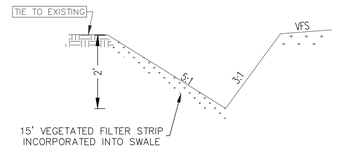
1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

SCALE: 1" = 40'



CROSS SECTION B–B

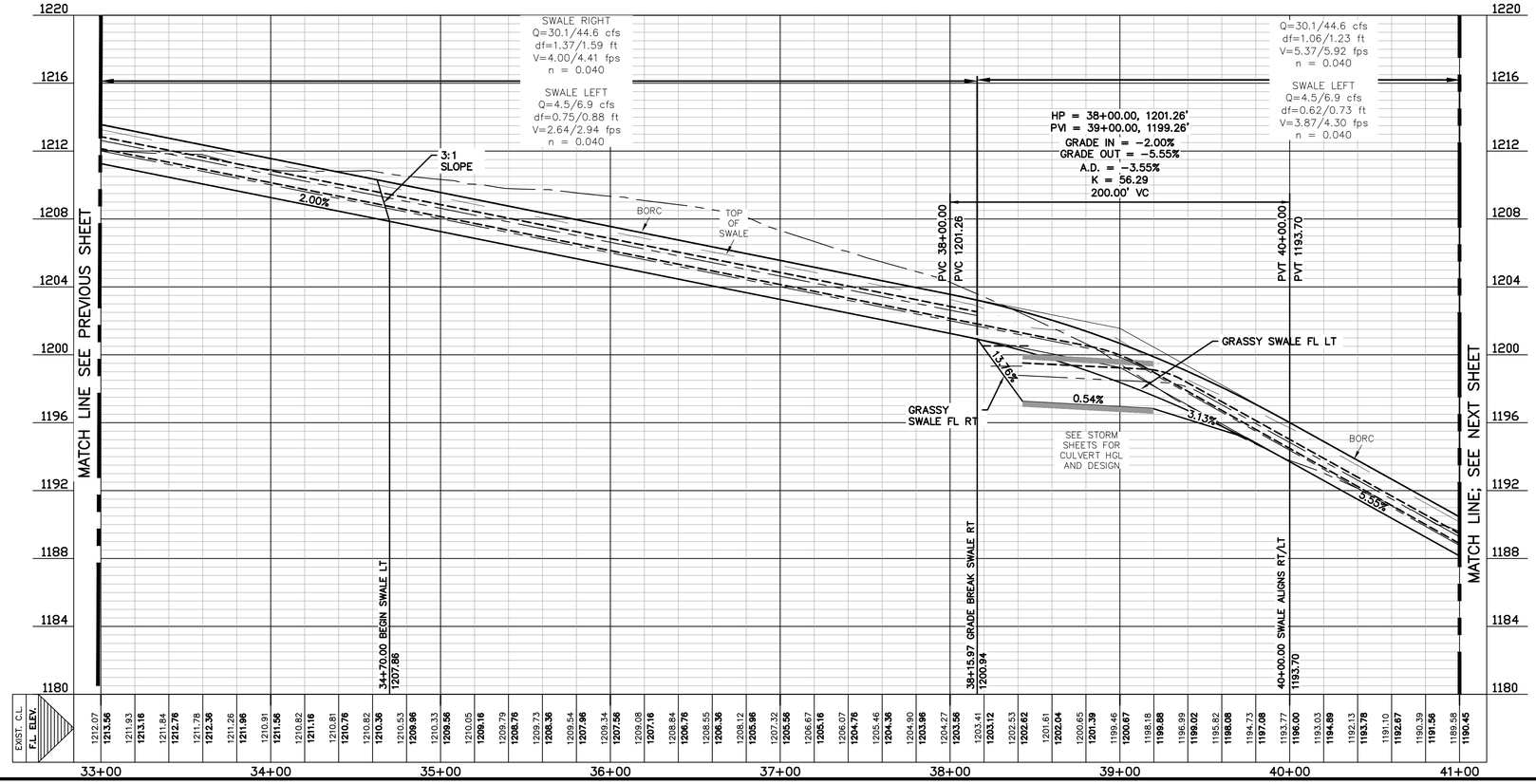
CROSS SECTION J–J



CROSS SECTION E–E

PROFILE SCALE		
HORIZ: 1" = 40'	PROPOSED BACK OF RIBBON CURB	TOP OF SWALE
VERT: 1" = 4'	PROPOSED GRASSY SWALE FLOW LINE	

GRASSY SWALE ALONG DREAM CATCHER LOOP



DESIGNED BY:	QD
DRAFTED BY:	CJP
DATE	
REVISION	

Carlson, Brigance & Doering, Inc.
Civil Engineering ◆ Surveying
FIRM ID #F3791
Main Office
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Austin, Texas
Phone No. (512) 280-5160
North Office
12129 RR 620 N., Ste. 600
Austin, Texas 78750
www.cbdeng.com

SHEET NAME: GRASSY SWALE ALONG DREAM CATCHER LOOP 33+00-41+00

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

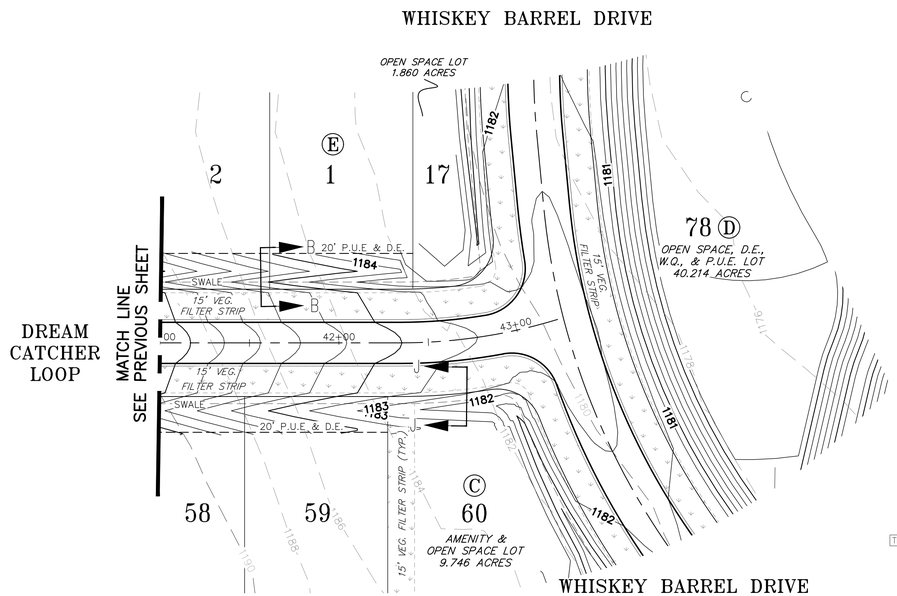
DATE: June 2023

JOB NUMBER: 5079

SHEET: 150 OF 162

FILE PATH: J:\ACD\5079\dwg\Construction Plans\5079-DITCH PLAN2.dwg - Jun 14, 2023 - 10:19am

SUB-STREET.CTB



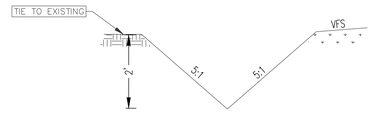
LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
-1160-	EXISTING CONTOUR MAJOR
-1158-	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

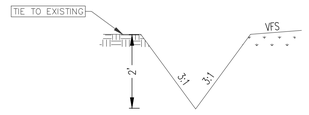
NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

0 40' 80'

SCALE: 1" = 40'



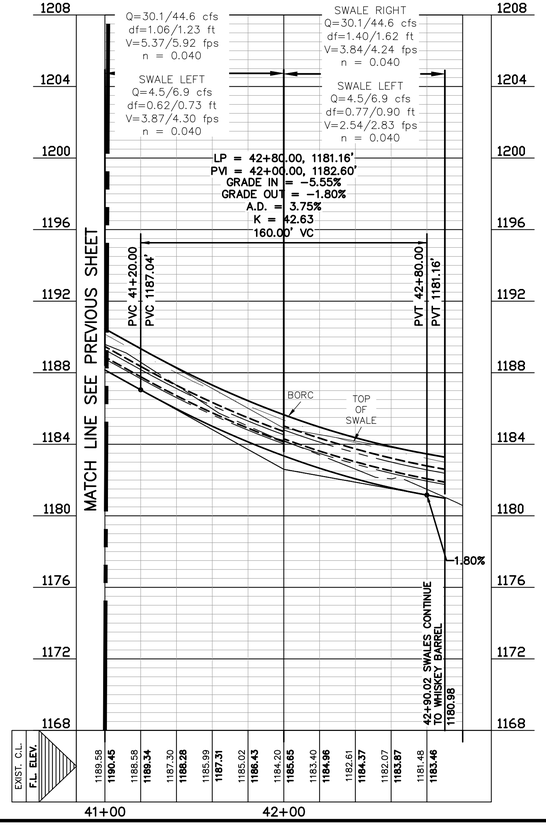
CROSS SECTION J-J



CROSS SECTION B-B

PROFILE SCALE			
HORIZ: 1" = 40'	PROPOSED GRASSY SWALE RT.	PROPOSED GRASSY SWALE LT.	PROPOSED TOC
VERT: 1" = 4'	NATURAL GROUND C	PROPOSED GRASSY SWALE C	

GRASSY SWALE ALONG DREAM CATCHER LOOP



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DESIGNED BY: QD	DRAFTED BY: CJP
DATE	
REVISION	

Carlson, Brigance & Doering, Inc.
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www.cbdeng.com

SHEET NAME: GRASSY SWALE ALONG DREAM CATCHER LOOP 41+00-END

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

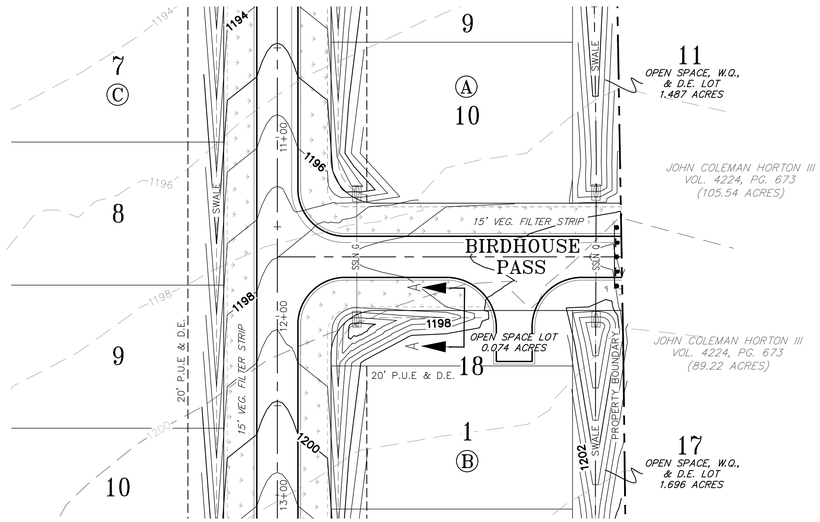
DATE: June 2023

JOB NUMBER: 5079

SHEET: 151 OF 162

SUB-STREET.CTB

DREAM CATCHER LOOP



DREAM CATCHER LOOP

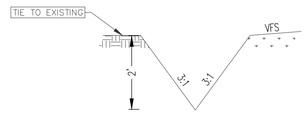
LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

0 40' 80'

SCALE: 1" = 40'

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

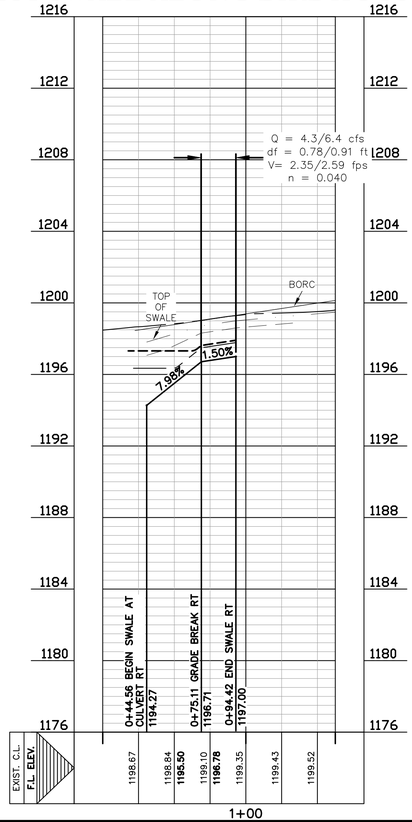


CROSS SECTION B-B

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED GRASSY SWALE RT.
NATURAL GROUND C
PROPOSED GRASSY SWALE LT.
PROPOSED TOC
PROPOSED GRASSY SWALE C

GRASSY SWALE ALONG BIRDHOUSE PASS



DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE
REVISION

Carlson, Brigance & Doering, Inc.
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FIRM ID #F3791
Main Office: 5501 West William Cannon Dr., Austin, Texas 78749, Phone No. (512) 280-5160
North Office: 12129 RR 620 N., Ste. 600, Austin, Texas 78750, www.cbdengr.com

SHEET NAME: GRASSY SWALE ALONG BIRDHOUSE PASS 0+00-END
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
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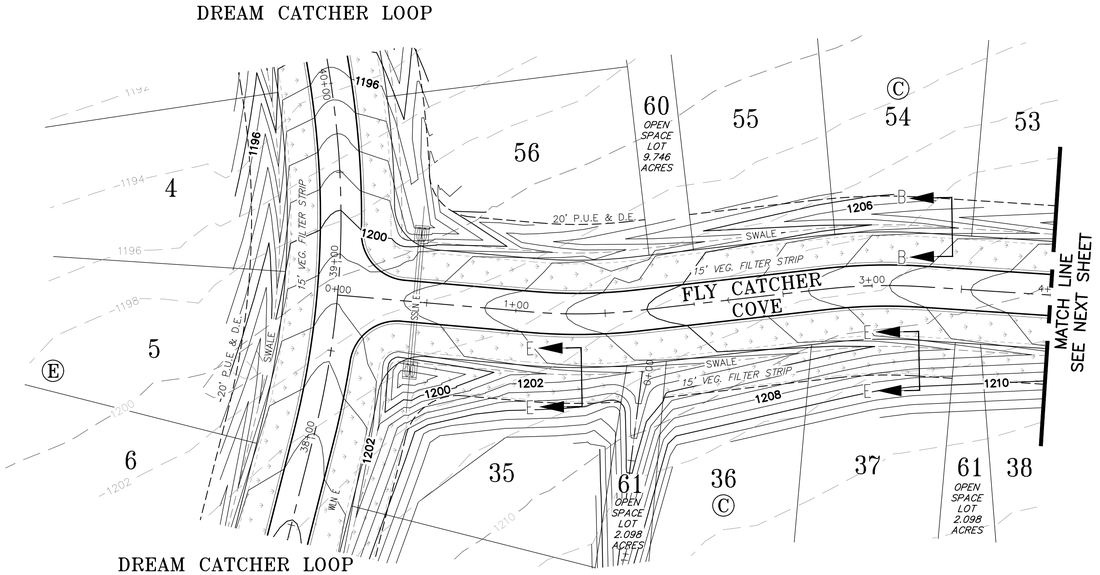
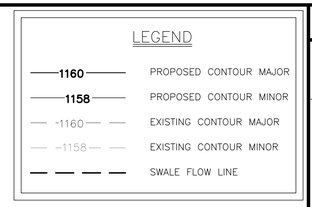
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

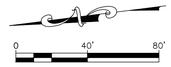
DATE: June 2023
JOB NUMBER: 5079
SHEET: 152 OF 162

FILE PATH=J:\AC3D\5079\dwg\Construction Plans\5079-DITCH PLAN2.dwg - Jun 14, 2023 - 10:20am

SUB-STREET.CTB

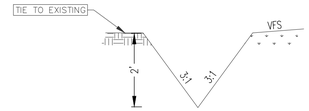




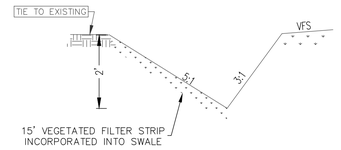


SCALE: 1" = 40'

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS



CROSS SECTION B-B

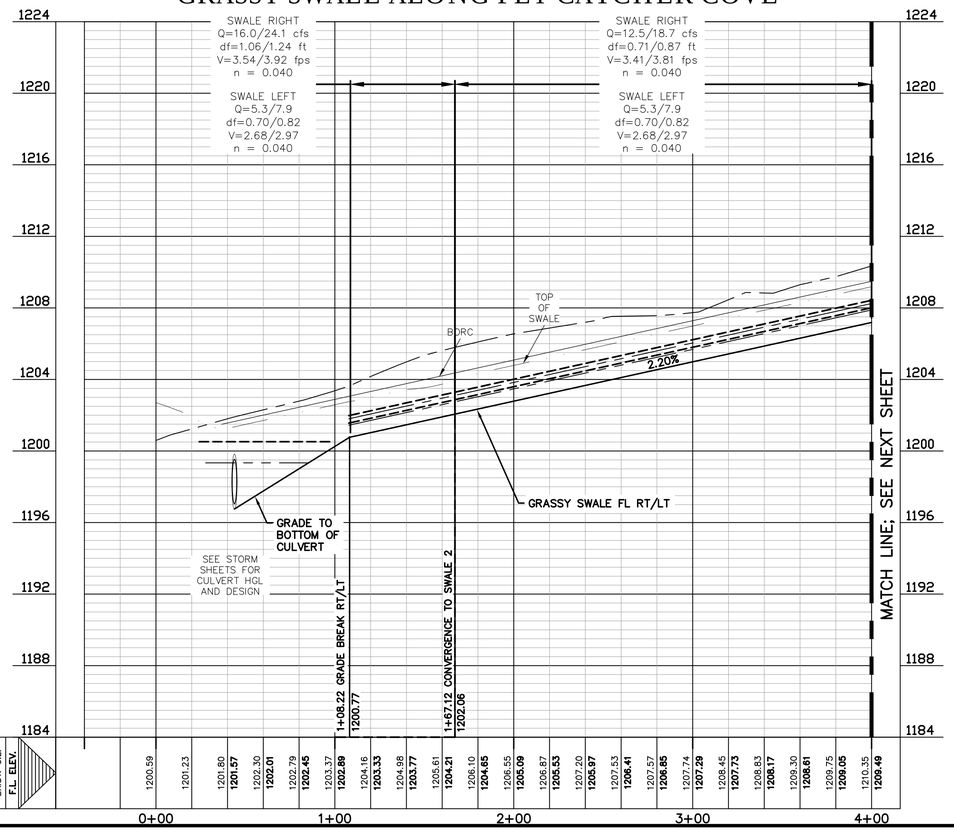


CROSS SECTION E-E

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE

GRASSY SWALE ALONG FLY CATCHER COVE



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www.cbdengr.com

DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

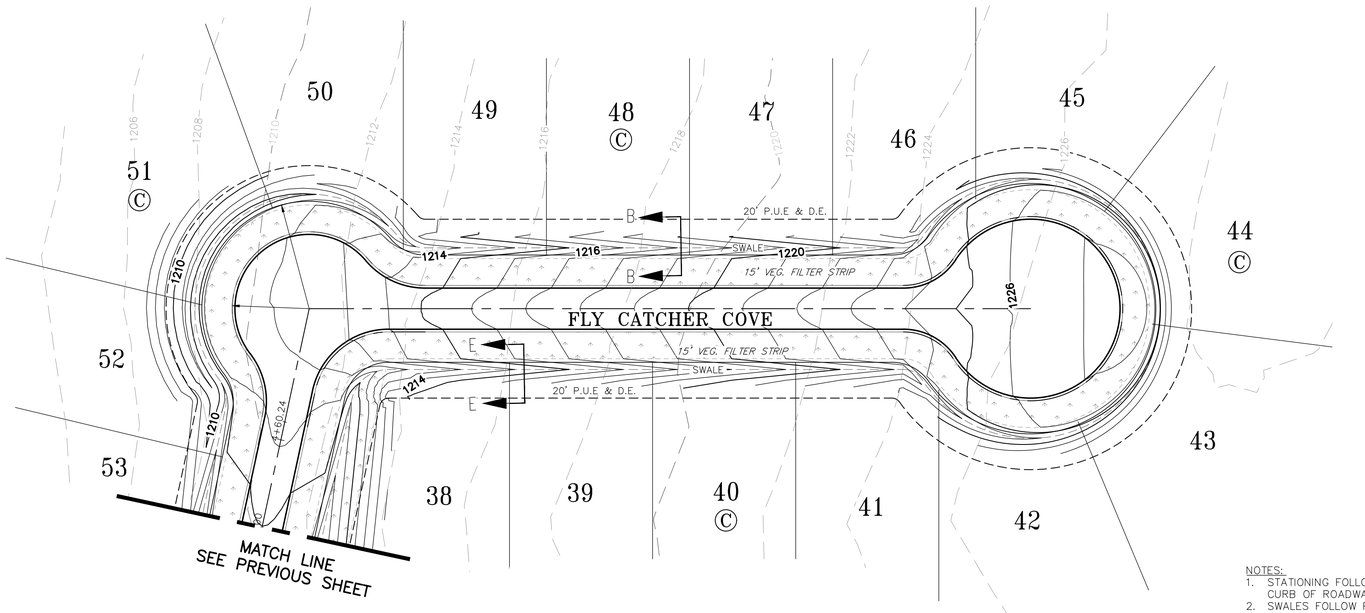
SHEET NAME: GRASSY SWALE ALONG FLY CATCHER COVE 0+00-4+00
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 153 OF 162

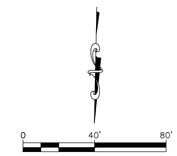
FILE PATH: J:\ACAD\5079\dwg\Construction Plans\5079-DITCH PLAN2.dwg - Jun 14, 2023 - 10:20am

SUB-STREET.CTB

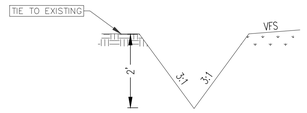


LEGEND

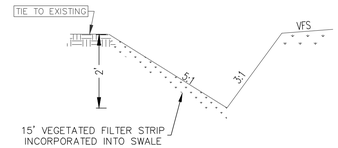
1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE



SCALE: 1" = 40'



CROSS SECTION B-B



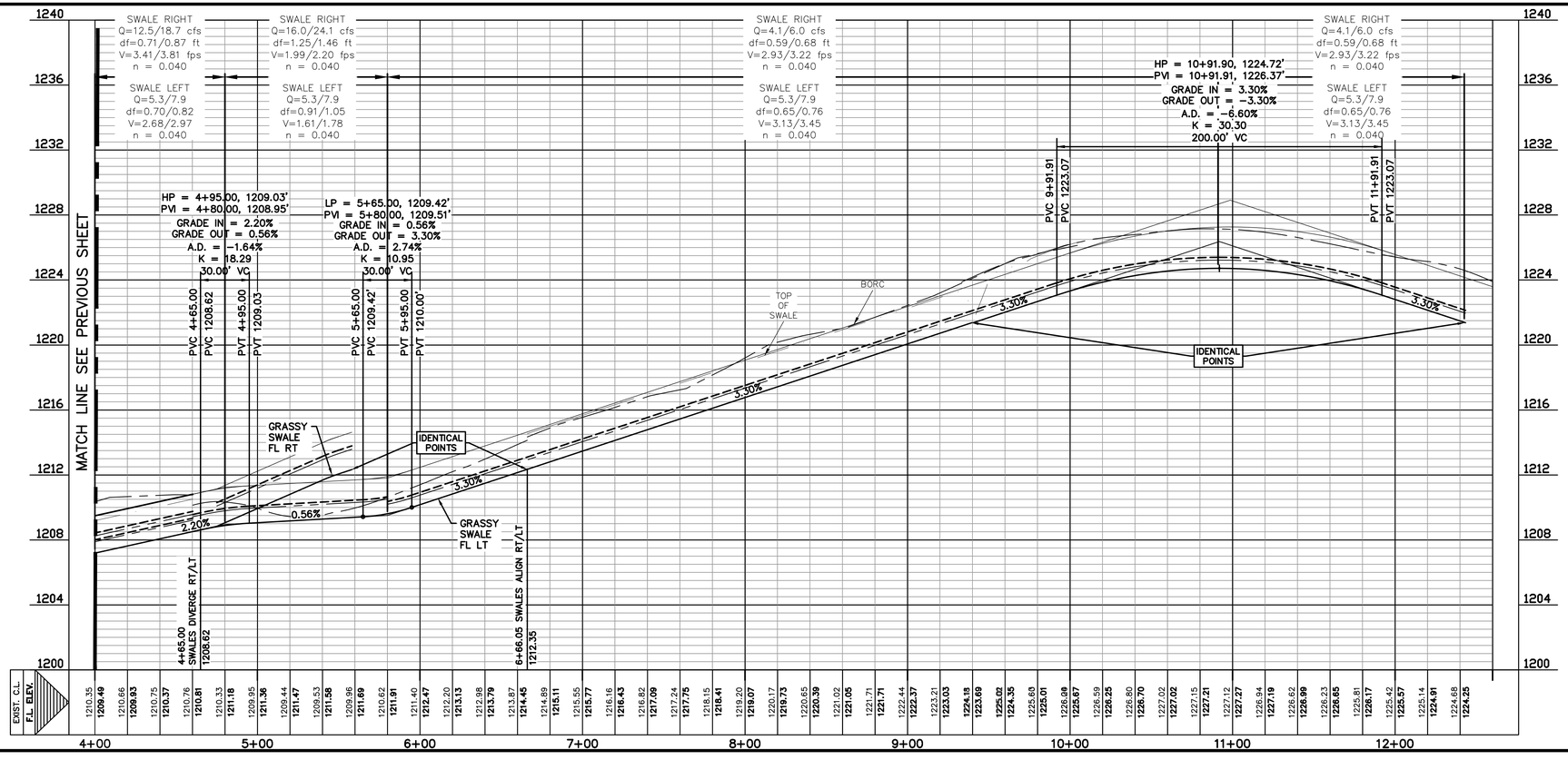
CROSS SECTION E-E

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE

GRASSY SWALE ALONG FLY CATCHER COVE



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www.cbdengr.com

DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

SHEET NAME: GRASSY SWALE ALONG FLY CATCHER COVE 4+00-END
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

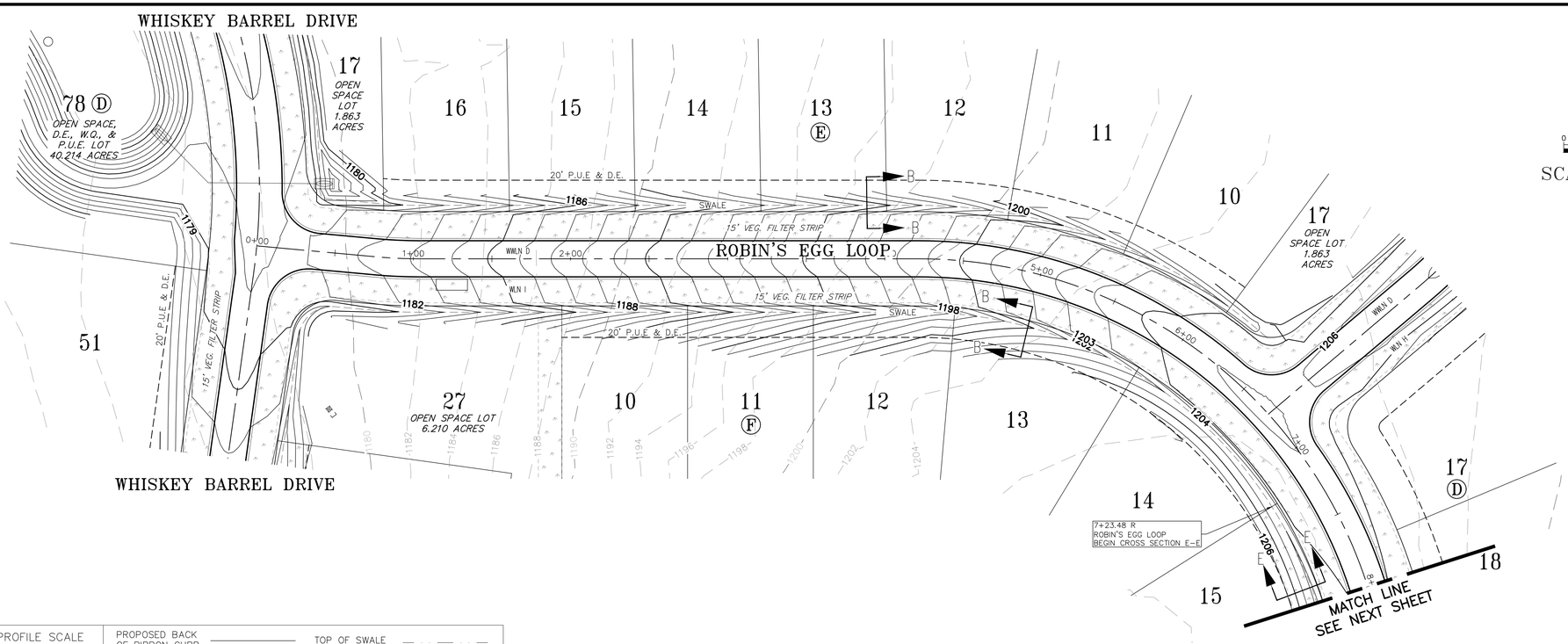
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

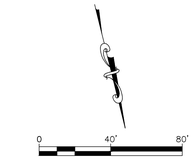
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE June 2023
JOB NUMBER 5079
SHEET 154 OF 162

FILE PATH: J:\AC3D15079\dwg\Construction Plans\5079-DITCH PLAN2.dwg - Jun 14, 2023 - 10:20am

SUB-STREET.CTB



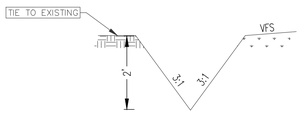


SCALE: 1" = 40'

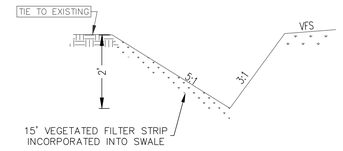
LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS



CROSS SECTION B-B

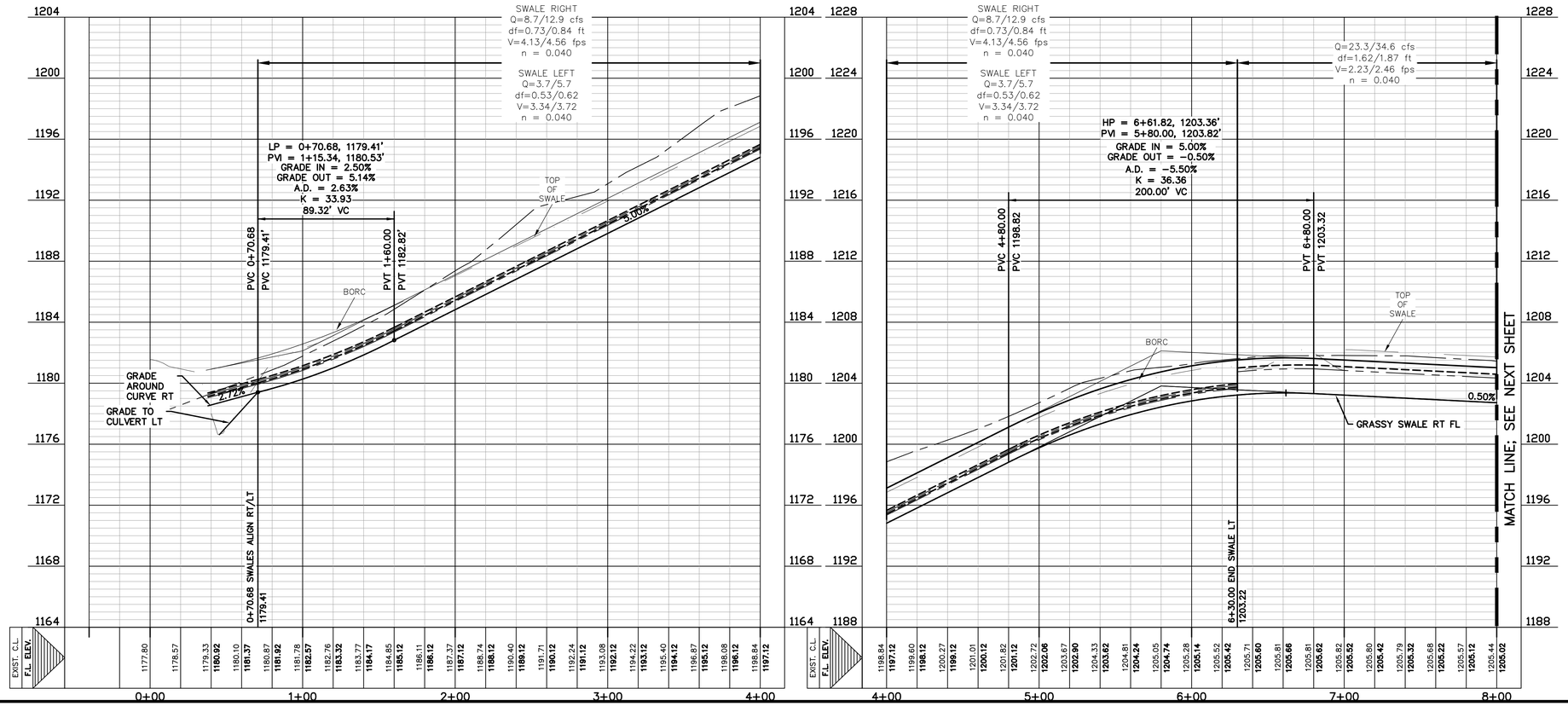


CROSS SECTION E-E

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE

GRASSY SWALE ALONG ROBIN'S EGG LOOP



Carlson, Brigance & Doering, Inc.
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Phone No. (512) 280-5160
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DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

SHEET NAME: GRASSY SWALE ALONG ROBINS EGG LOOP 0+00-8+00
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

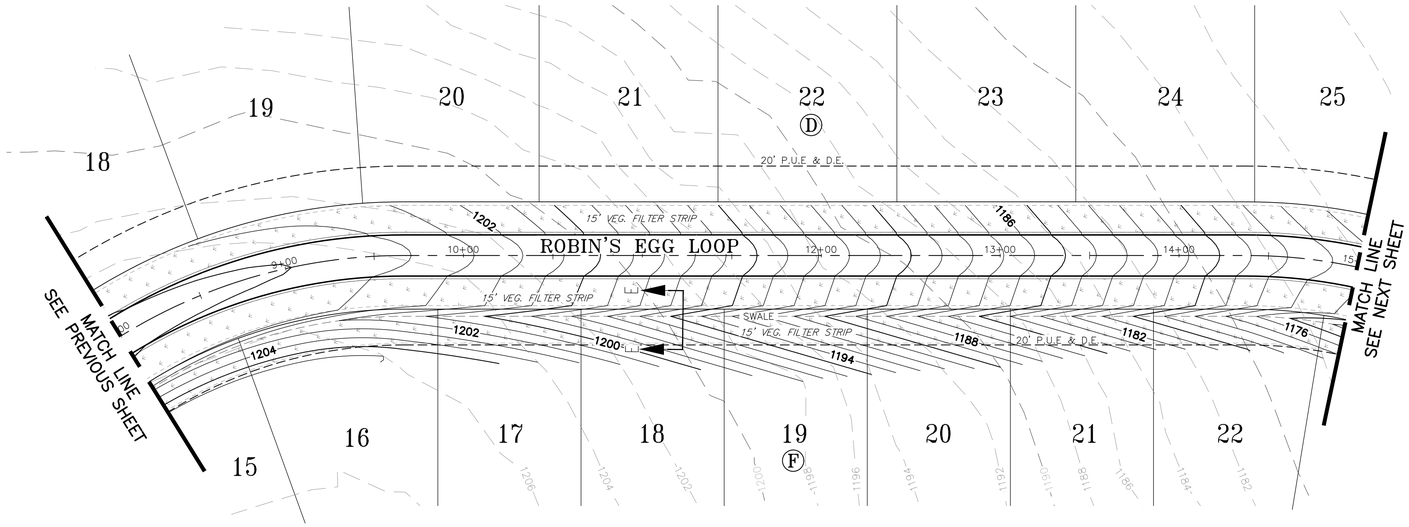
Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 155 OF 162

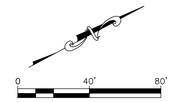
FILE PATH: J:\ACD\5079\dwg\Construction Plans\5079-DITCH PLAN2.dwg - Jun 14, 2023 - 10:20am

SUB-STREET.CTB

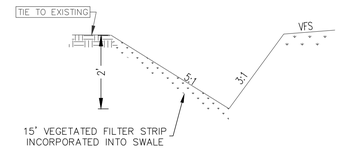


LEGEND	
1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS



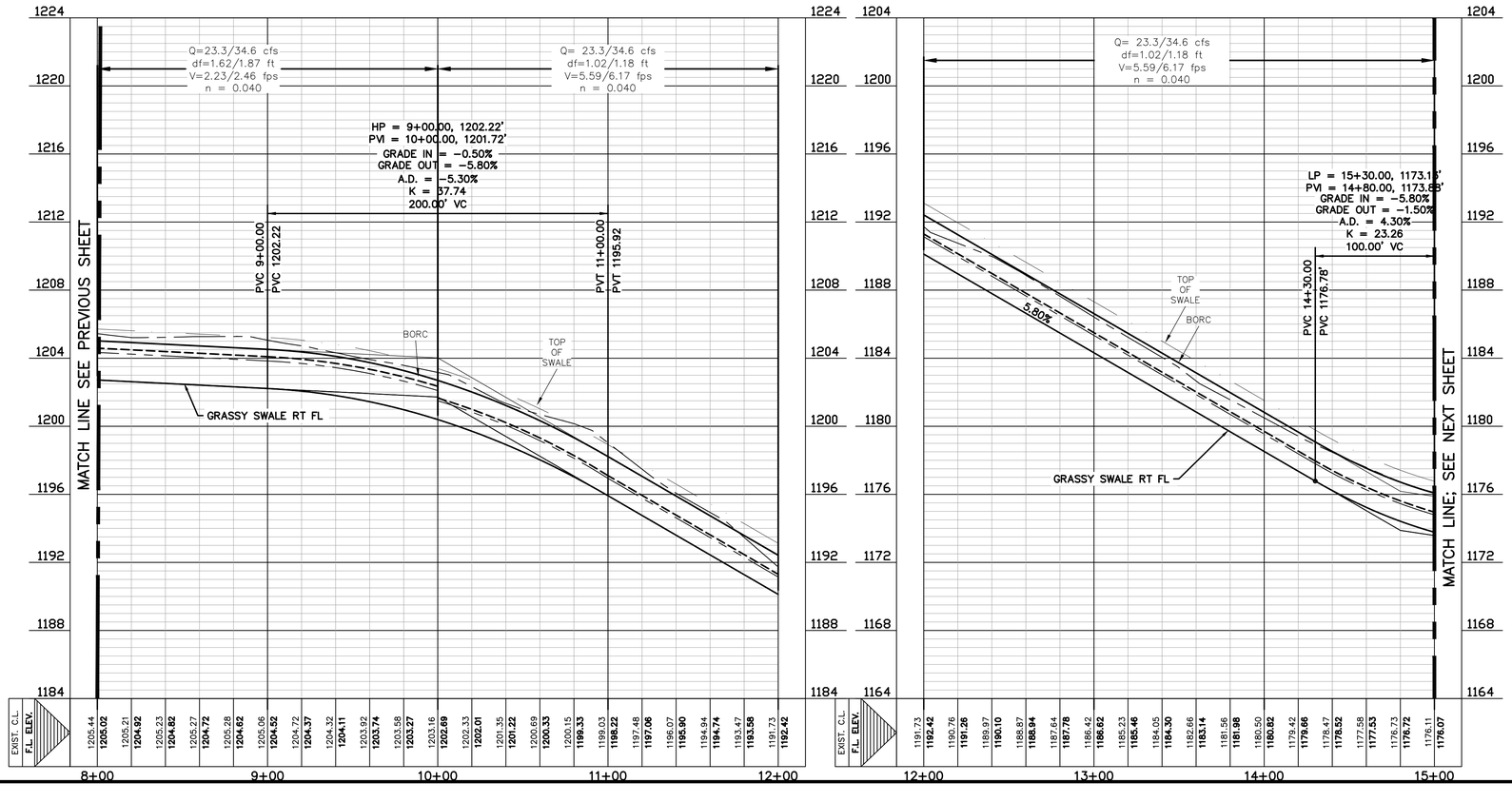
SCALE: 1" = 40'



CROSS SECTION E-E

PROFILE SCALE	PROPOSED BACK OF RIBBON CURB	TOP OF SWALE
HORIZ: 1" = 40'		
VERT: 1 = 4	PROPOSED GRASSY SWALE FLOW LINE	

GRASSY SWALE ALONG ROBIN'S EGG LOOP



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DESIGNED BY: QD	DRAFTED BY: CJP
DATE	
REVISION	

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Phone No. (512) 280-5160
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www.cbdeng.com

SHEET NAME: GRASSY SWALE ALONG ROBINS EGG LOOP 8+00-15+00

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

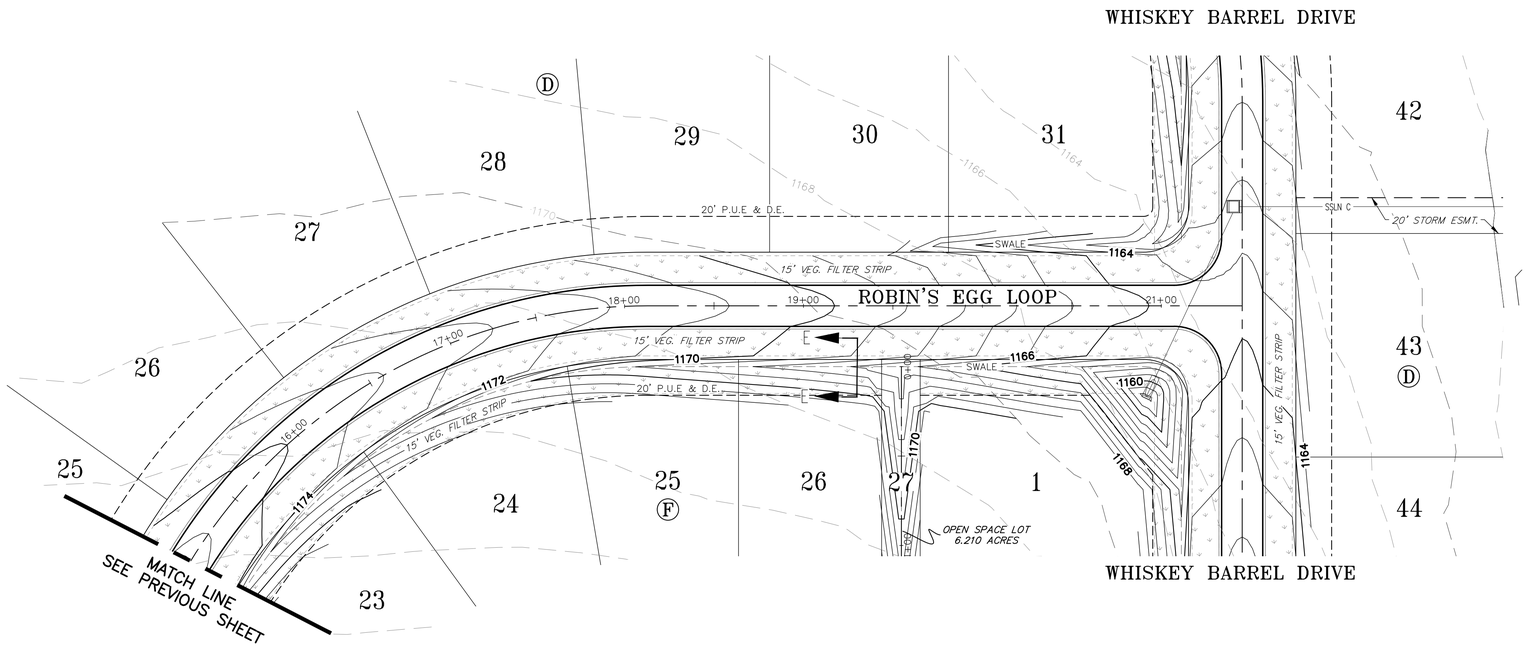
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

SHEET: 156 OF 162

SUB:STREET.CTB



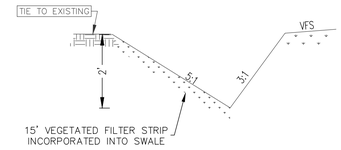
LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE

0 40' 80'

SCALE: 1" = 40'

NOTES:
1. STATIONING FOLLOWS BACK OF RIBBON CURB OF ROADWAY.
2. SWALES FOLLOW PROFILE OF ROADWAY UNTIL STORM CROSSINGS

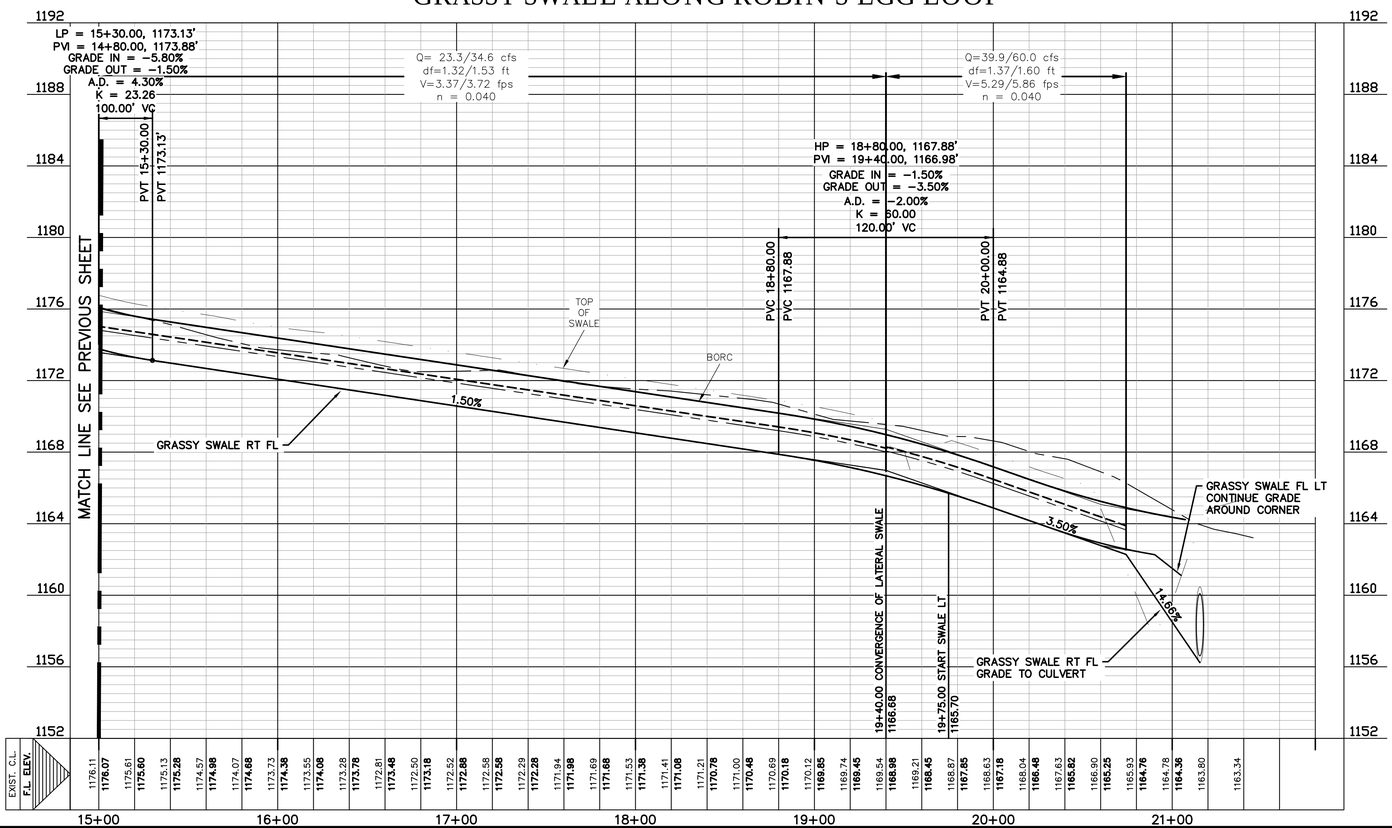


CROSS SECTION E-E

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED GRASSY SWALE
PROPOSED BACK OF RIBBON CURB
NATURAL GROUND
PROPOSED GRASSY SWALE FLOW LINE
PROPOSED GRASSY SWALE
LT. TOP OF SWALE
PROPOSED TOC
PROPOSED GRASSY SWALE C

GRASSY SWALE ALONG ROBIN'S EGG LOOP



DESIGNED BY: QD
DRAFTED BY: CJP
DATE
REVISION

Carlson, Brigance & Doering, Inc.
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SHEET NAME: GRASSY SWALE ALONG ROBINS EGG LOOP 15+00-END
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

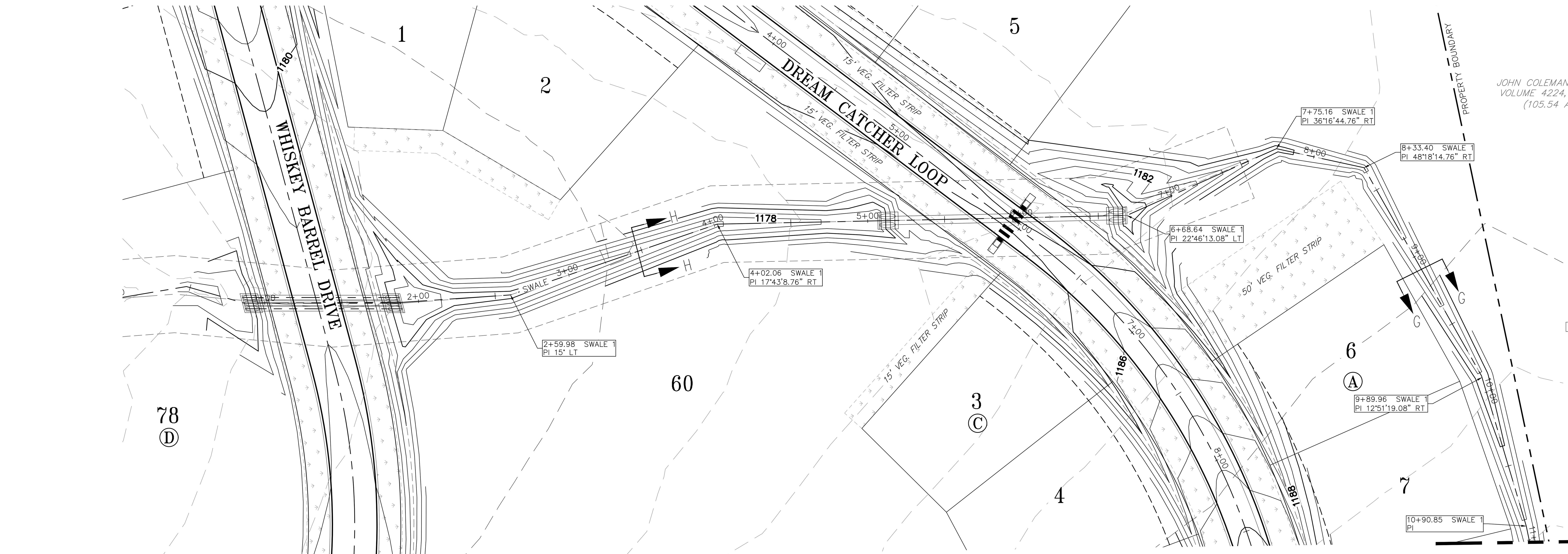
Quynn Dusek 6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 157 OF 162

FILE PATH:J:\ACAD\5079\dwg\Construction Plans\5079-DITCH PLAN2.dwg - Jun 14, 2023 - 10:20am



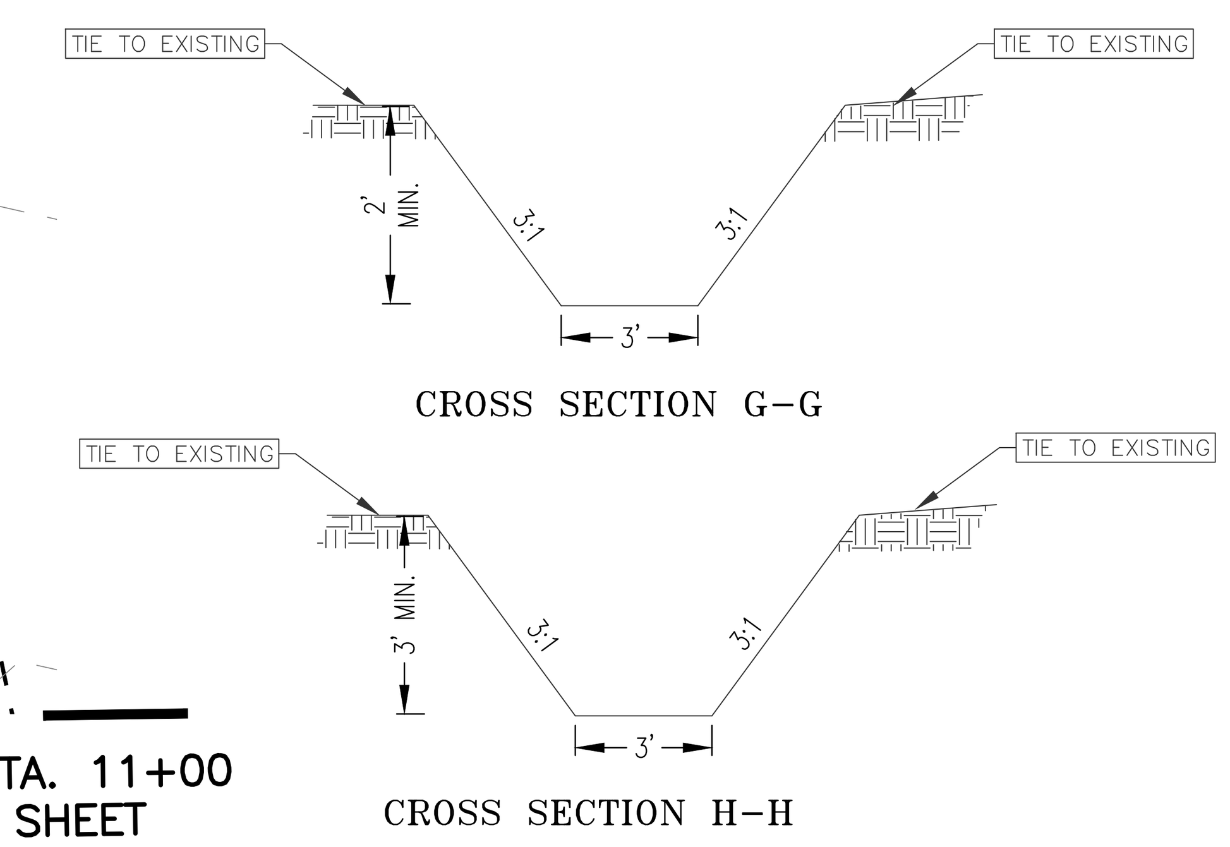
LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
-1160	EXISTING CONTOUR MAJOR
-1158	EXISTING CONTOUR MINOR
— — — —	SWALE FLOW LINE

0 40' 80'

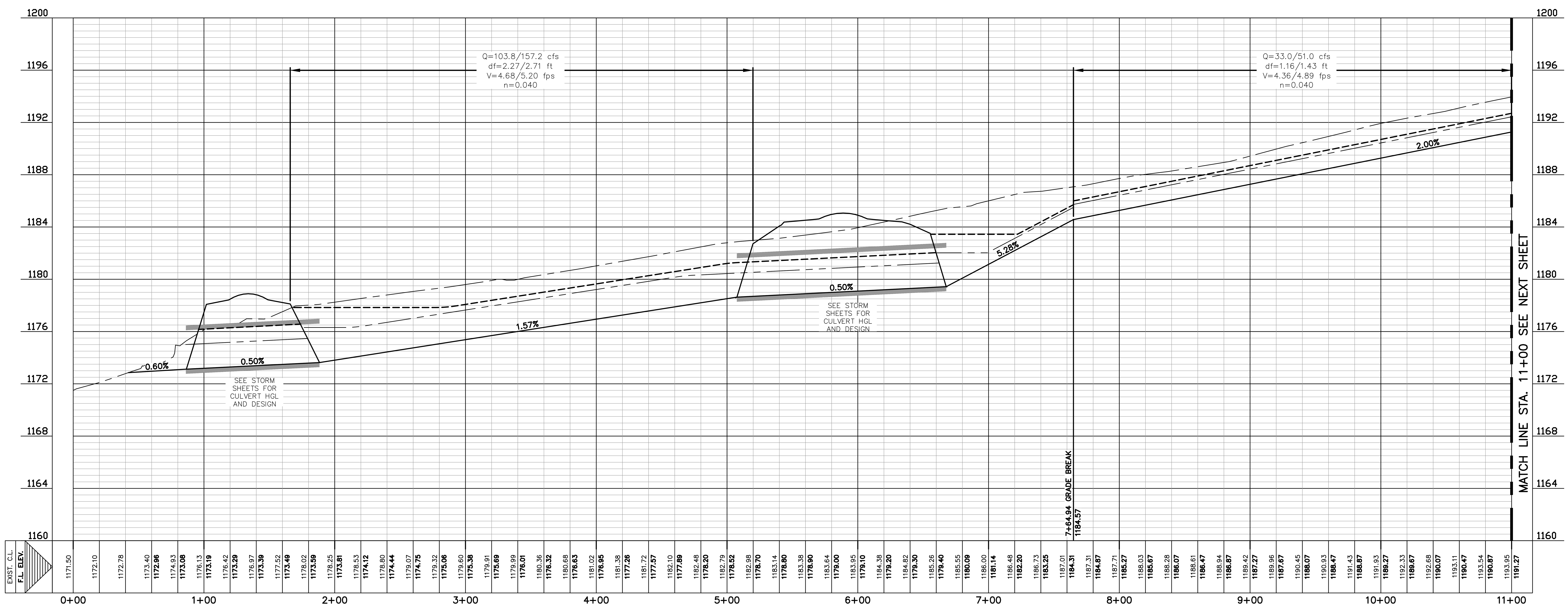
SCALE: 1" = 40'

NOTE:
STATIONING FOLLOWS CENTER OF SWALE



PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE



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	1172.10	
	1172.78	
	1173.40	1172.96
	1174.93	1173.08
1+00	1176.13	1173.19
	1176.42	1173.29
	1176.97	1173.39
	1177.52	1173.49
	1178.02	1173.59
2+00	1178.25	1173.81
	1178.53	1174.12
	1178.80	1174.44
	1179.07	1174.75
	1179.32	1175.06
3+00	1179.60	1175.38
	1179.91	1175.69
	1179.99	1176.01
	1180.36	1176.32
	1180.68	1176.63
4+00	1181.02	1176.95
	1181.38	1177.26
	1181.72	1177.57
	1182.10	1177.89
	1182.48	1178.20
5+00	1182.79	1178.52
	1182.98	1178.70
	1183.14	1178.80
	1183.38	1178.90
	1183.64	1179.00
6+00	1183.95	1179.10
	1184.38	1179.20
	1184.82	1179.30
	1185.26	1179.40
	1185.55	1180.09
7+00	1186.00	1181.14
	1186.48	1182.20
	1186.73	1183.25
	1187.01	1184.31
	1187.31	1184.87
8+00	1187.71	1185.27
	1188.03	1185.67
	1188.28	1186.07
	1188.61	1186.47
	1188.94	1186.87
9+00	1189.42	1187.27
	1189.96	1187.67
	1190.45	1188.07
	1190.93	1188.47
	1191.43	1188.87
10+00	1191.93	1189.27
	1192.33	1189.67
	1192.68	1190.07
	1193.11	1190.47
	1193.54	1190.87
11+00	1193.95	1191.27

DESIGNED BY: QD | DRAFTED BY: CJP

DATE | REVISION

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Phone No. (512) 280-5160
North Office
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Austin, Texas 78750
www.cbdeng.com

SHEET NAME: GRASSY SWALE 1 (1 OF 3)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek
6/13/2023

STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

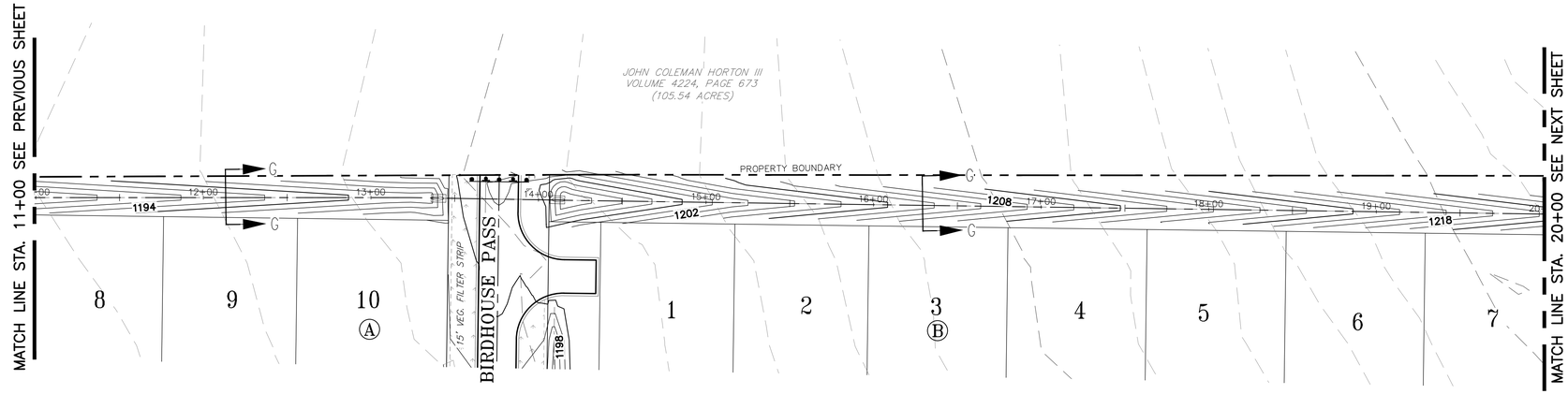
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE
June 2023

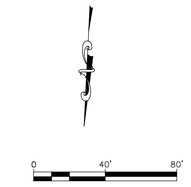
JOB NUMBER
5079

SHEET
158 OF 162

SUB:STREET.CTB

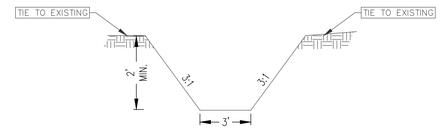


LEGEND	
1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE



SCALE: 1" = 40'

NOTE:
STATIONING FOLLOWS CENTER OF SWALE



CROSS SECTION G-G

PROFILE SCALE	PROPOSED BACK OF RIBBON CURB	TOP OF SWALE
HORIZ: 1" = 40'	PROPOSED GRASSY SWALE FLOW LINE	
VERT: 1" = 4'		

DESIGNED BY:	DRAFTED BY:
QD	CJP

DATE

REVISION

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SHEET NAME: GRASSY SWALE 1 (2 OF 3)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

QUYNN DUSEK
6/13/2023
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE
June 2023

JOB NUMBER
5079

SHEET
159 OF 162

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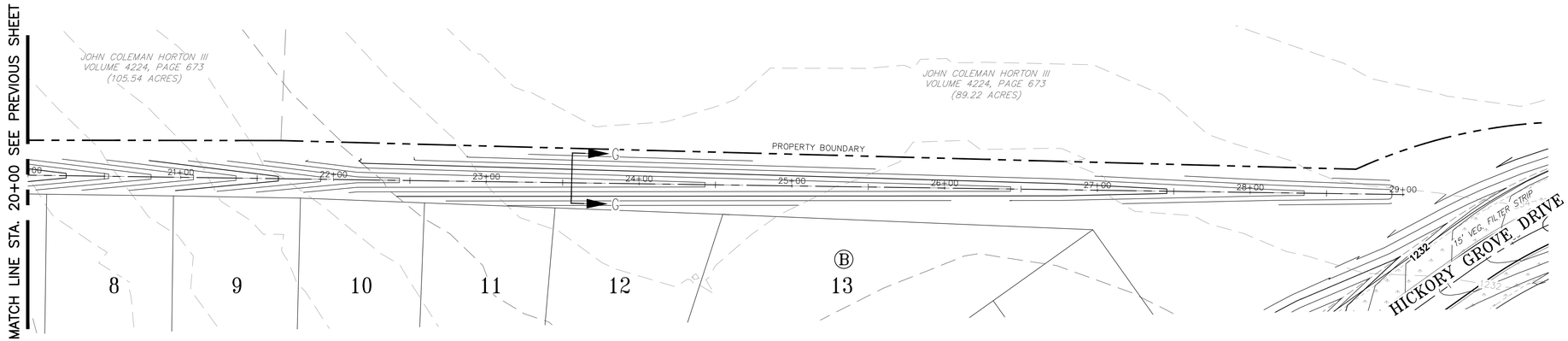
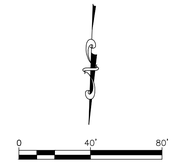
SUB-STREET.CTB



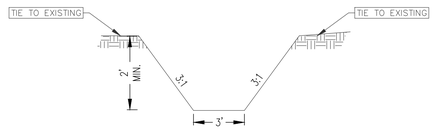
LEGEND

1160	PROPOSED CONTOUR MAJOR
1158	PROPOSED CONTOUR MINOR
1160	EXISTING CONTOUR MAJOR
1158	EXISTING CONTOUR MINOR
	SWALE FLOW LINE



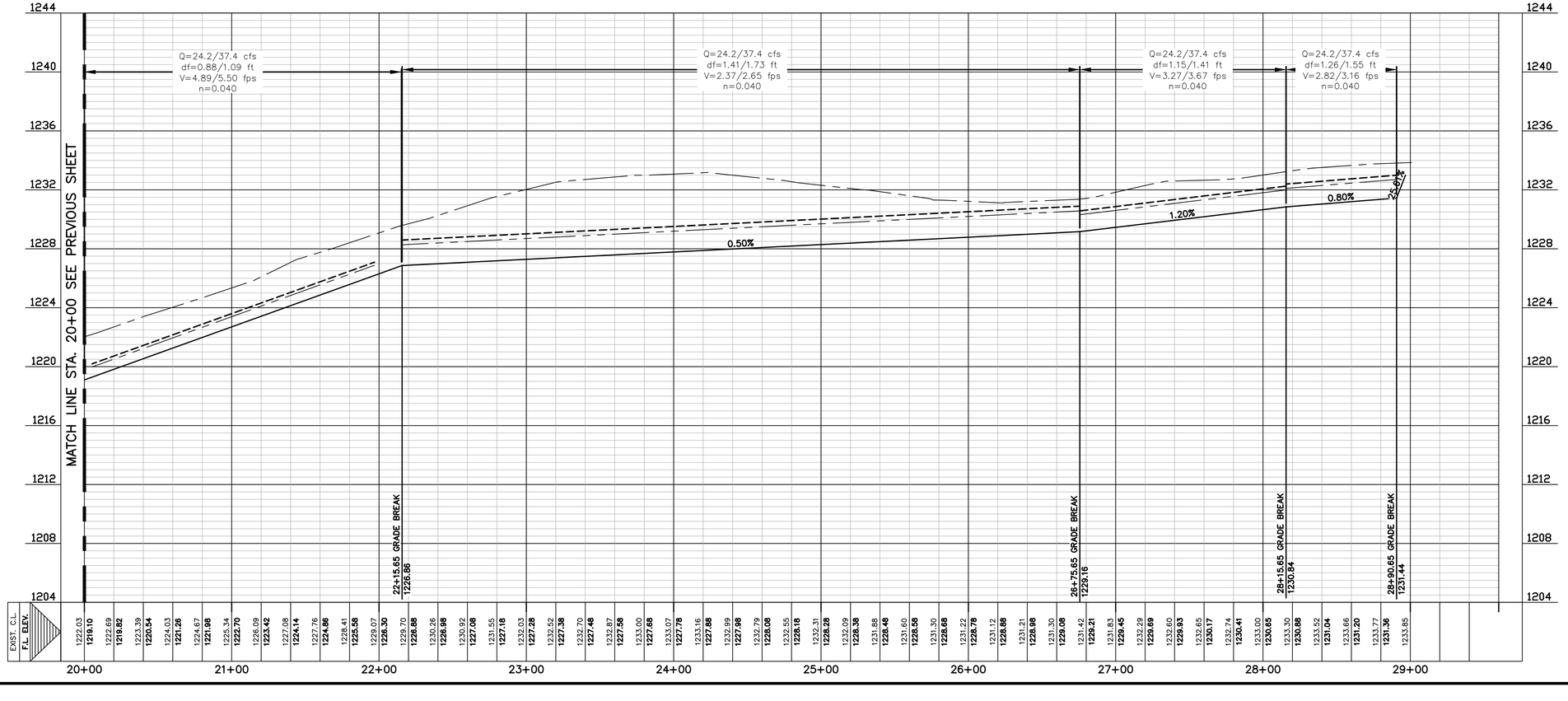
SCALE: 1" = 40'

NOTE:
STATIONING FOLLOWS CENTER OF SWALE



CROSS SECTION G-G

PROFILE SCALE		
HORIZ: 1" = 40'	PROPOSED BACK OF RIBBON CURB	TOP OF SWALE
VERT: 1" = 4'	PROPOSED GRASSY SWALE FLOW LINE	



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SHEET NAME: GRASSY SWALE 1 (3 OF 3)

JOB NAME: THE RANCH AT CALITERRA

PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

Quynn Dusek 6/13/2023

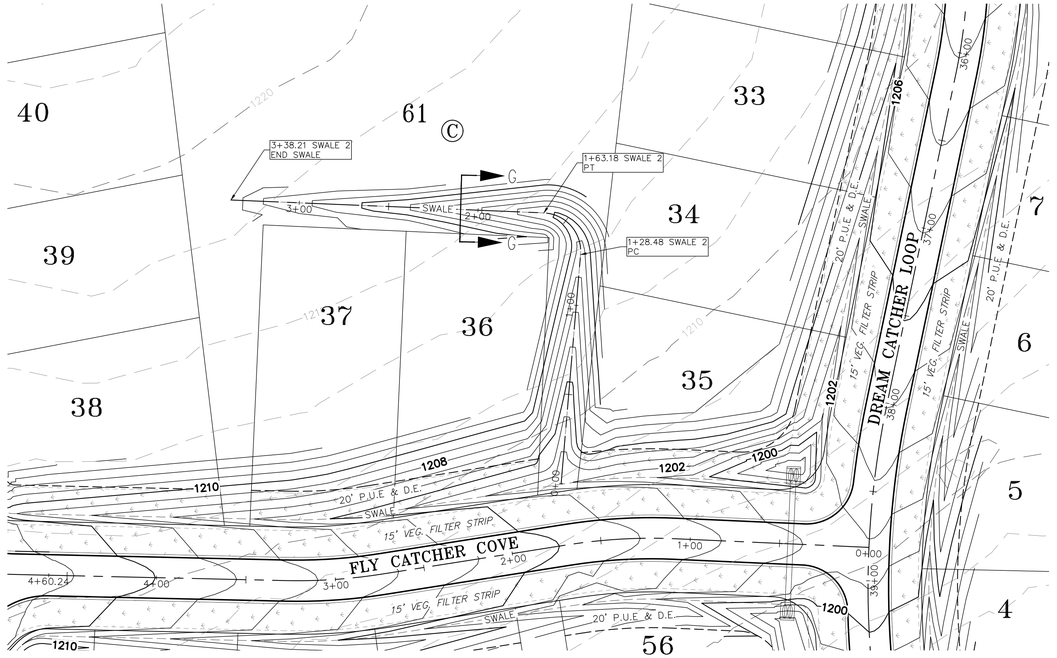
STATE OF TEXAS
QUYNN DUSEK
130416
LICENSED PROFESSIONAL ENGINEER

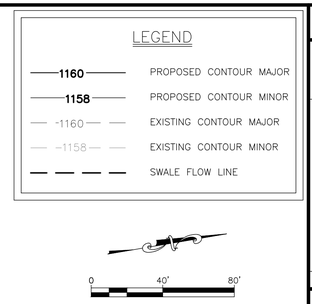
CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023

JOB NUMBER: 5079

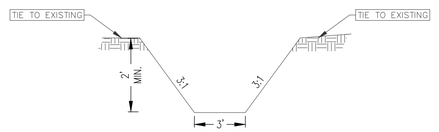
SHEET: 160 OF 162





SCALE: 1" = 40'

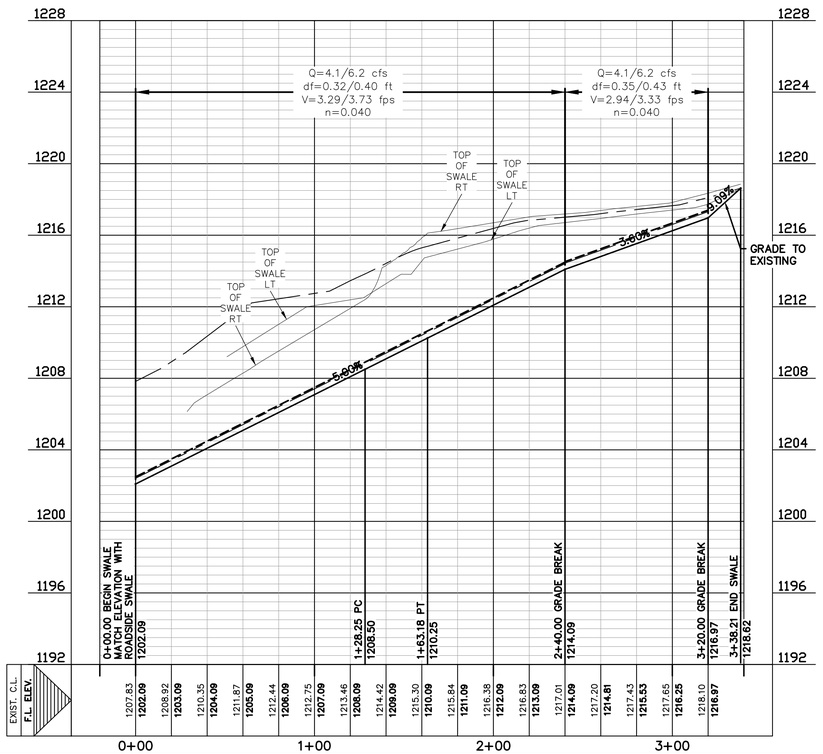
NOTE:
STATIONING FOLLOWS CENTER OF SWALE



CROSS SECTION G-G

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE



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SHEET NAME: GRASSY SWALE 2
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

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CARLSON, BRIGANCE & DOERING, INC.
ID# F3791

DATE: June 2023
JOB NUMBER: 5079
SHEET: 161 OF 162

SUB-STREET.CTB

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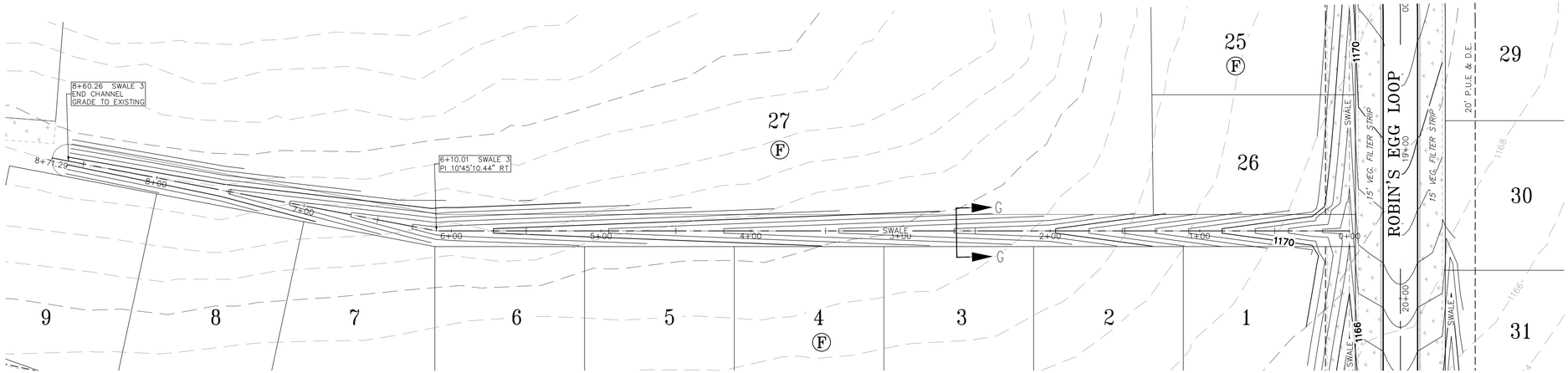
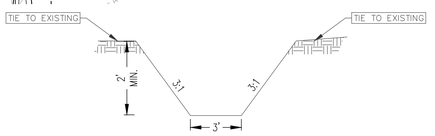
SUB-STREET.CTB



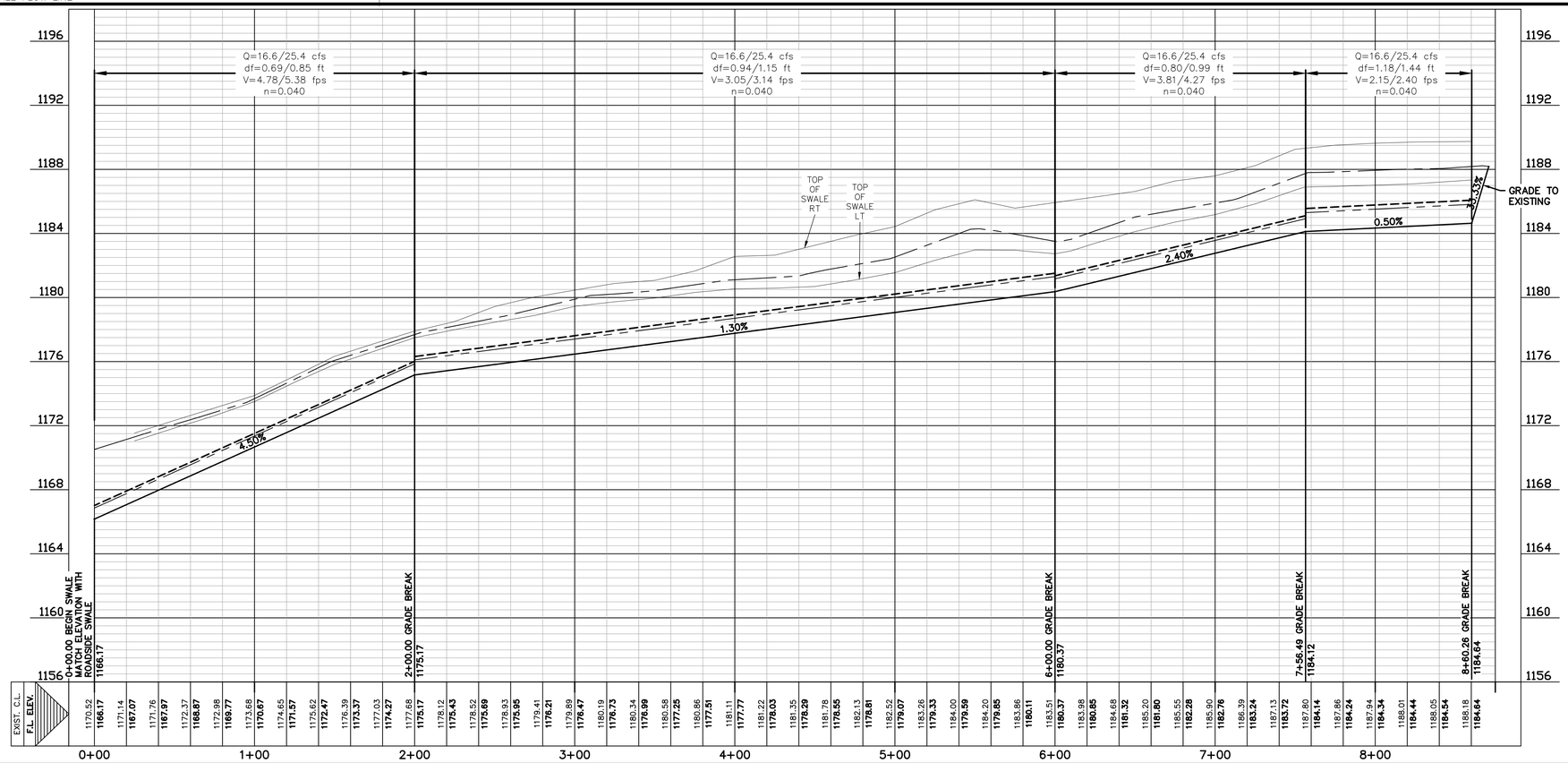
SCALE: 1" = 40'



CROSS SECTION G-G

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

PROPOSED BACK OF RIBBON CURB
PROPOSED GRASSY SWALE FLOW LINE
TOP OF SWALE



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SHEET NAME: GRASSY SWALE 3
JOB NAME: THE RANCH AT CALITERRA
PROJECT: STREET, DRAINAGE, WATER, & WASTEWATER IMPROVEMENTS

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